# Amateur Radio

Volume 78 Numbers 1&2
January/February 2010

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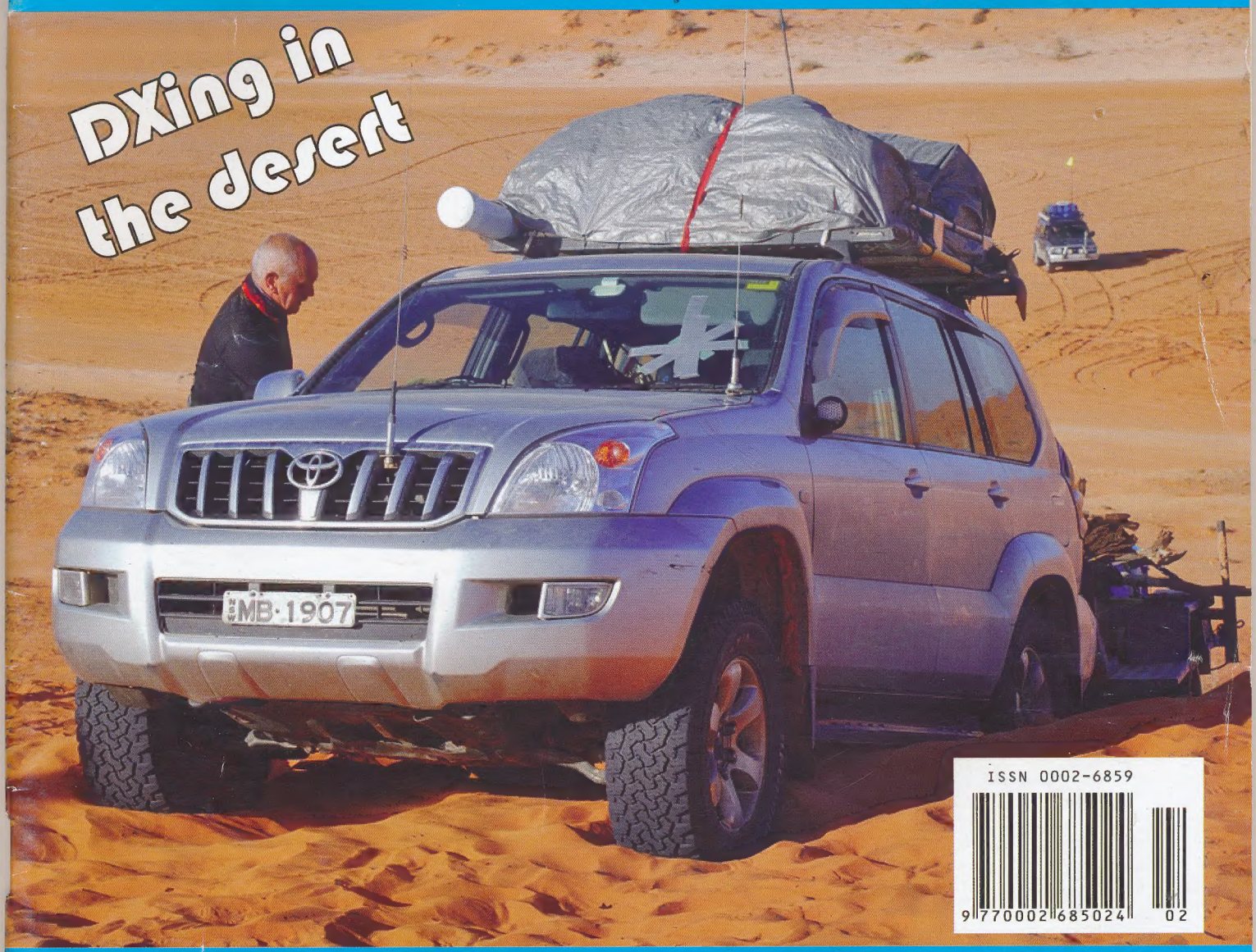


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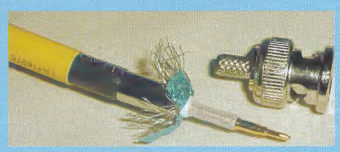

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# Amateur Radio

Volume 78, Number 1&2
January/February 2010

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## GENERAL

The Haverford seven metre fibreglass telescopic pole ..... 7
*Ernie Walls VK3FM*

An arena of wonder – QSP ..... 23
*Peter Wolfenden VK3RV*

Poeppel Corner 2009 ..... 31
*Daniel Clift VK2DC*

Tales from the South Pacific - Lord Howe Island Dxpedition VK9LA ..... 38
*Chris Chapman VK3QB*

Amateur Radio Annual Index 2009 ..... 50

## TECHNICAL

Bias and protection circuit for amplifier protection ..... 5
*Dale Hughes VK1DSH*

Using RG58 coaxial crimp connectors with RG6 cable ..... 8
*Garth Jenkinson VK3BBK*

A complete 8 MHz IF System for USB, LSB and CW for a HF Transceiver, Part 2 of 3 ... 9
*Peter Wathen VK3EPW*

## COLUMNS

AHARS (VK5) ..... 36
ALARA ..... 22
AMSAT ..... 45
Contests ..... 57
DX - News & Views ..... 48
Editorial ..... 2
Foundation Corner ..... 61
GARC (VK3) ..... 56
Hamads ..... 62
News from:
VK2 ..... 49
VK3 ..... 35, 56
VK4 ..... 35
VK5 ..... 30, 36
VK6 ..... 36, 54
VK7 ..... 44
Picture of the month ..... 64
SK ..... 29
Spotlight On SWLing ..... 37
VHF/UHF – An Expanding World ..... 17
WIA Comment ..... 3
WIA News ..... 4

## Our cover this month

**Travelling in the outback without radio communications (and possibly a satellite phone) would be irresponsible. Our cover photo this month shows one reason why — it is easy to become bogged when tackling some routes. Read all about the group trip undertaken by the Blue Mountains ARC through the outback to reach Poeppel Corner in the Simpson Desert, starting on page 31.**

**Contributions to Amateur Radio**
Amateur Radio is a forum for WIA members' amateur radio experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are welcome and will be considered for publication. Articles attached to email are especially welcome. The WIA cannot be responsible for loss or damage to any material. Information on house style is available from the Editor.

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Back issues are available directly from the WIA National Office (until stocks are exhausted), at $8.00 each (including postage within Australia) to members.

**Photostat copies**
If back issues are unavailable, photocopies of articles are available to members at $2.50 each (plus an additional $2 for each additional issue in which the article appears).

**Disclaimer**
The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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# Editorial

**Peter Freeman VK3PF**

## A New Year begins

With our production schedule, this issue was put together commencing in early January.

Hopefully all will notice at least one significant change with this issue. Firstly, we have placed the WIA Centenary logo in the magazine, including the cover. We have changed our printer, together with the paper used and have increased the number of full colour pages by dropping the old spot-colour pages. All members of the Publications Committee are hoping that the result will be a lift in the appearance of the magazine.

There are some other changes occurring in the background with the administration associated with *Amateur Radio*. Most will not be of concern to those outside the Publications Committee.

However, it is important that all Clubs note the procedure for Club advertising: such advertising can be either an internal advertisement in the magazine or the insertion of a flyer into those magazines mailed out to WIA members and subscribers. Requests must be made through the Secretary of Publications Committee by the first day of the month prior to the publication cover date – i.e. at least one month in advance.

We are also updating some of the details in the Club Advertising policy. The revised policy should be available on the AR magazine pages of the WIA website by the time that this issue reaches readers.

## Centenary celebrations

As all readers should know, 2010 marks the centenary of the formation of the first organised amateur radio body in Australia, a body which was the forebear of our WIA.

We will be giving coverage to the celebratory events throughout the year, together with a series of articles detailing a short history of the WIA – the world's oldest amateur radio organisation. In this issue, the first instalment outlines the very early years of amateur radio in Australia.

I am aware that much work is being undertaken by the WIA nationally, and I am sure that the situation will besimilar with many clubs – it is probable that Amateur Radio NSW will be very advanced with their plans. I am sure that the WIA will soon have further details available about the Annual General Meeting Weekend of Activities, to be held in Canberra over the weekend of Friday 28 to Sunday 30 May 2010. See this month's News and Comment for some details on the planned activities.

I am hoping to be able to attend the AGM Weekend of Activities, and look forward to catching up with many readers over the weekend.

Please do remember to ensure that someone in your club takes some good photographs and writes up an account of the activities undertaken by your club for submission to this magazine for publication.

## Field Day season

Field Day season is upon us – in at least two meanings: Field Day contests and "hamfest" type events.

The Summer VHF/UHF Field Day is happening as I write this Editorial. Locally, conditions are flat and I am suffering lots of noise at home. But at least I am making some contacts. Coming up in March will be the John Moyle Memorial National Field Day – in the past, this event has provided a focus for many clubs to operate large portable stations and have lots of fun on the radios.

The other Field Days – the "hamfests" – are back in full swing.

Two very large events are coming up in February: Centre Victoria Radiofest and Wyong (Central Coast ARC), plus others.

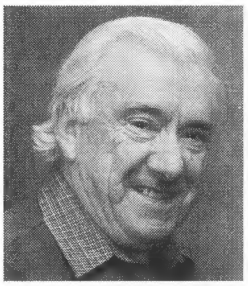
I plan to make the trip to Kyneton, but am unlikely to make Wyong – it is the day before teaching starts for 2010 and I have to deliver a lecture at 0900 Monday morning. Wyong is a little too far away to safely make it back in time for the first lecture.

These events are great places to catch up with many people, people who you may normally only catch on air. Of course, there is also the attraction of the new and pre-loved goodies that will be available for sale!

Cheers,
Peter VK3PF

**ar**

# WIA comment



**Michael Owen**
**VK3KI**

## A Very Special Year

This issue of Amateur Radio is the first issue for 2010, the WIA's Centenary Year.

This issue includes the first of a number of historical articles, and in particular a series of articles by Peter Wolfenden VK3RV.

I was reading Peter's article, and two things become very obvious. One is how new "wireless" was when the WIA was formed. The other is how much "wireless" technology has changed in that time, and how we use it.

While we are talking of the centenary of the formation of the WIA and the centenary of organised amateur radio in Australia we are really celebrating the history of radio.

Think of the extent of the changes in that time. Look at the wireless equipment and the frequencies used 100 years ago. Then look at what the radio equipment was after the Second World War. For older amateurs, it is a sobering thought. Look at what we did when we started and look at what we use today.

100 years ago everyone was an experimenter.

Today, only some radio amateurs can be described as "experimenters". While the emphasis on what radio amateurs do and the technology they use has changed, the basic concept and basic traditions of amateur radio have not changed.

So, this is a very special year.

But there is one thing certain.

As we use "radio" more and more, very often without characterising something as "radio", we know that radio equipment and its usage will continue to change.

Perhaps as we celebrate the past it is a time to consider how change will affect amateur radio in the future. In our country we have already taken steps to make amateur radio more attractive to newcomers. The convergence of technologies, computers and their software, the internet and radiocommunications is a fact of life. We cannot treat the Internet as a competitor to amateur radio. But it can be part of amateur radio.

And if we try and live in a world of amateur radio as we knew it when some of us were young, then amateur radio will die.

So, this is a special year.

How is the WIA marking this year?

We are doing it in a number of ways.

As you will see from the cover of this month's *Amateur Radio*, we are using a special Centenary logo.

Throughout the year we will be publishing articles and photographs on various aspect of the history of radio and amateur radio.

We have already sent to most clubs some of our Centenary posters and Calling CQ posters.

Most are aware of the special callsign VK100WIA, and we have invited our affiliated clubs to use that callsign for three day slots between June and October. As I write this, only four slots remain!

And we will offer the WIA Centenary Award for those contacting VK100WIA as required by the rules for the award.

We have also asked each club to devise and conduct a special event celebrating the Centenary and promoting amateur radio in their community. I hope that during the year I will be able to attend a number of such events across the country.

I suggest that you visit the WIA website and look at the Centenary pages, which set out information on the Centenary and Centenary activities, makes available for download the Centenary logo, has the rules of the WIA Centenary Award, and has the VK100WIA Centenary roster as well as the VK100WIA Online logbook and details of the Centenary merchandise.

Our principal activity for the year will be the activities associated with our Annual General Meeting followed by the Open Forum in Canberra from Friday 29 to Sunday 31 May.

The News page of this month's *Amateur Radio* is largely devoted to the WIA's formal release, announcing the venue, the main activities and the arrangements for those wishing to participate.

The IARU Region 3 Directors will be holding their 2010 meeting in Canberra immediately before the AGM weekend, and so will participate in the Centenary activities and the Dinner.

IARU President Tim Ellam will participate, IARU Region 1 will also be represented, and NZART will be sending two representatives.

The WIA Board is hoping that as many amateurs as possible will participate in one or more of the special events to mark 2010, so it does truly become a very special year. **ar**

# WIA News

## WIA Centenary Celebration - Principal event

Final planning is well advanced for the interesting events and activities to occur in the national capital, Canberra from Friday 28 to Sunday 30 May, as part of the year-long WIA Centenary celebration.

The highlights will be a series of presentations on the early days of radio and on the Saturday evening, the Centenary Dinner to be attended by both overseas and local dignitaries is promising to be a truly memorable occasion.

The start of the program includes the Friday evening gathering at the Black Mountain Tower Restaurant for a meal – a booking is required (see below). This venue gives an excellent view of Canberra and surrounds.

The main venue for the three days is the Rydges Lakeside Canberra Hotel, on London Circuit, Canberra City. Accommodation there can be booked now by phoning the hotel and mentioning the 'WIA Centenary Convention' to receive a special rate of $150 a night.

A wide range of other accommodation is also available in Canberra such as caravan parks, on site caravans and motel units.

The WIA Annual General Meeting and Forum will be held at Rydges Lakeside on the Saturday morning, and this will be followed by the "The WIA Centenary through word, picture, and artefacts" which is shaping up to be a real highlight.

During the day there will be a series of presentations on the early days of radio and amateur radio in Australia and how it has advanced to its present form. Also operating at Rydges Lakeside on the three days will be the special station VK100WIA in conjunction with the WIA Centenary Award.

### Registration on-line

Those wishing to participate in the program of events will need to register. The registration will be on-line via the Centenary section of the WIA website. The Centenary Weekend registration page will be available early February.

A registration fee of $75 per person will be charged for those attending the weekend activities (other than just the AGM and Open Forum) and includes a morning tea, a lunch and an afternoon tea, plus a valuable registration pack.

To attend the Centenary Dinner at Rydges Lakeside, payment will need to be made at time of registration. For those wanting to be part of the get together dinner at the Black Mountain Tower Restaurant on Friday details and booking arrangements will be posted on Centenary Weekend registration page on the WIA website. A guest speaker will be part of the Friday evening activities. On Sunday there will have a chance to visit some of the many interesting sights of Canberra before the BBQ where there will be a public display of amateur radio.

More details about the Centenary program in Canberra 28-30 May will appear in the March edition of Amateur Radio magazine, the WIA website news and on the weekly WIA national news broadcast VK1WI.

## VK5ALE Lower Eyre Peninsula ARC clubrooms destroyed

Michael Carey VK5ZEA reported sad news from Port Lincoln on 24 December 2009. The day before a bush fire threatened the outskirts of Port Lincoln during a Catastrophic Fire danger day (FDI 100+).

Strong, hot north winds made fighting the fire impossible and a wind change made things a lot worse. 12 homes were lost, countless sheds and rural properties were destroyed including the Lower Eyre Peninsula ARC Clubrooms.

Thankfully, no lives were lost.

Part of the wreckage at Port Lincoln.

A walk through video is at http://www.wia.org.au/newsevents/news/2009/20091224-1/index.php

## Radio Operator Recognition Day for February 2010

February 7, 2010 is the first anniversary of the disastrous fires in Victoria where 13 major fires burnt 352,686 hectares. 173 lives were lost, over 2000 homes destroyed, countless stock killed, kilometres of fences, sheds and wildlife lost.

The fires continued to burn in the area until March, when fire fighting efforts along with cooler weather and rain allowed the fires to be brought under control.

The Yarra Valley Amateur Radio Group members were impacted significantly by the fires. Members' homes were lost, the club room grounds were burnt and the club lost its communications trailer. Fortunately the club rooms were saved by a neighbour.

Amateur Radio played a significant role in providing communications operators to emergency organisations post the fires, providing 1000s of hours of operating along with many other technical services. This is an opportunity for all amateurs to recognise the service given.

For the first anniversary of the 2009 February fires, the Yarra Valley Amateur Radio Group have applied for and received a special callsign in recognition of the services radio operators provided during and after the fires. This callsign is VI3KIAH and will operate at Kinglake, one of the most significantly damaged areas, on February 7, 2010. Radio amateurs and friends are invited to visit the station on the day. 'Kiah' is an Australian Aboriginal word meaning "beautiful place". The club will issue a special QSL card for contacts made on the day. The plan is to run to a schedule of frequencies over the day.

The Yarra Valley Amateur Radio Group would like to invite all amateurs to participate in this event, where propagation allows, by calling in over the day and evening or visiting the station during its operations, in particular amateurs from the bushfire affected areas.

**ar**

# Bias and protection circuit for amplifier protection

Dale Hughes VK1DSH

**During development of a 3 cm transverter an unfortunate incident occurred which caused the destruction of a microwave power amplifier module through failure of its negative gate bias voltage and subsequent over-current operation.**

The following notes describe a circuit which provides the appropriate drain (positive) and gate bias (negative) voltages suitably interlocked and current limited to prevent inadvertent destruction of sensitive devices. The circuit also provides power to drive a 'Transco' 24 volt RF relay, a type which is commonly used in microwave equipment.

## Circuit description

It is assumed that the circuit, as a whole, operates from a (nominally) 12 volt supply, for example, a battery.

Starting with the negative gate bias voltage; this is generated by a DC/DC converter which produces +/- 12 volt outputs. The negative output is regulated down to the required voltage; approximately -2.7 volts in this case. U3, a LM337 three-terminal regulator is used as it provides a convenient way to adjust the output voltage and, more importantly, provides a low impedance source for the gate bias voltage. The negative bias is applied to the amplifier whenever the transverter is powered.

An interlock circuit using a LM311 comparator (U2) protects the amplifier in the event the gate bias is not available. The operation of this part of the circuit is described later.

The dual polarity output of the DC/DC converter provides a convenient source of 24 volts to power the microwave coaxial relay which is switched via a FET (Q4) and opto-coupler (U4). Only when the emitter of U4 is energised is power available to the T/R relay and this happens when the T/R_RLY line is pulled to ground via the external sequencer circuitry.

Voltage supplied to the microwave power amplifier is regulated down to 5 volts (or any other required level) by integrated circuit U1. This device is a SGS-Thomson regulator housed in a five pin TO-220 package which is bolted directly to the chassis. Like the more common three terminal regulators, the output voltage can be adjusted by selecting two resistors. In addition the maximum output current can be set by connecting a suitable current sense resistor (R7) between the output and current limit pins of the regulator. In the case of the prototype, two 1.5 ohm resistors connected in parallel were used, resulting in a maximum current limited output of just over 400 mA. The current limit is very effective and should protect the amplifier against failure caused by exceeding its maximum current rating.

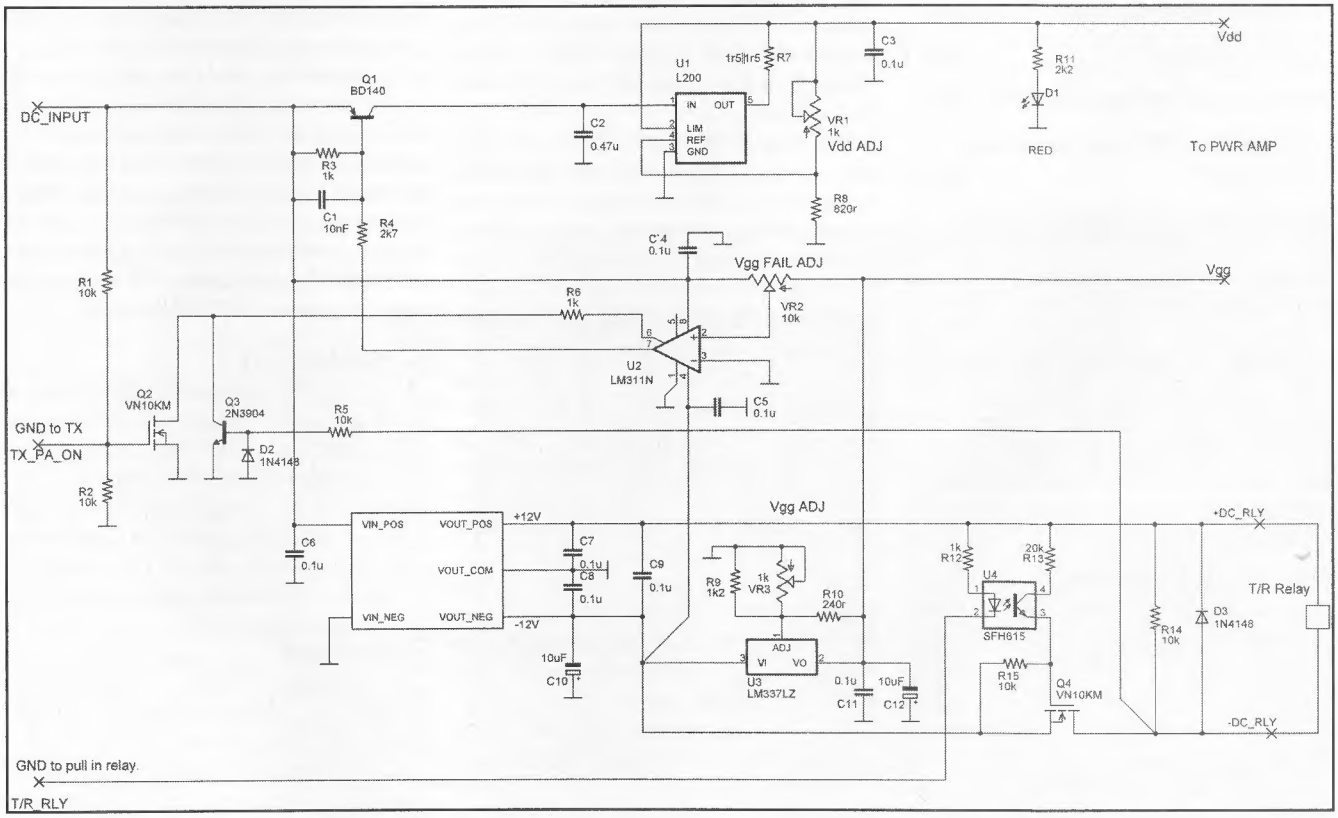



Figure 1: Schematic diagram of the protected power supply. In normal use the T/R_RLY input is asserted before the TX_PA_ON input. The timing is controlled by an external sequencer circuit.

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See reference 2 for more details of the L200 regulator.

Power to the regulator (U1), and ultimately the amplifier, is switched through a transistor which can only conduct when its base terminal is pulled down by the output of comparator U2. This will only happen when three conditions are met:

- The negative gate bias voltage must be present.
- The strobe pin (pin 6) of U2 is open circuit, which enables the comparator output. This can only occur in transmit mode.
- Power must be provided to the T/R relay so that the amplifier is switched through to the antenna (or other appropriate load).

The comparator inputs are arranged so that the negative bias voltage pulls the voltage on the positive input (pin 2) of the comparator below the negative input (pin 3); when this is true and the strobe input is not pulled to ground via either Q2 or Q3, the comparator output will go to approximately ground potential and switch on Q1, allowing power to flow to U1. The trip level of the comparator can be adjusted by potentiometer VR2. Failure of either the regulated or unregulated negative supply will cause the comparator to inhibit the drain voltage supply so that damage to the connected amplifier will be avoided.

Transistors Q2 and Q3 are in a 'wired OR' configuration. If either transistor is turned on, the comparator output is disabled via the strobe input. When transmit mode is selected, the T/R relay is energised and the correct negative gate bias voltage is available, transistors Q2 and Q3 are turned off, enabling the comparator strobe input and allowing power to be supplied to the power amplifier. When the transverter is in receive mode, transistors Q2 and Q3 are turned on which grounds the comparator strobe input, preventing power being supplied to the amplifier.

Condition 3 prevents power being applied if the T/R relay is not energised. Ideally this would be done through an additional set of relay contacts, but this was not available on the relay on hand, so the interlock is based on the voltage applied to the relay coil. When power is applied to the relay, the voltage at the base of Q3 goes from positive to negative, switching off Q3 and allowing the comparator output to be active.

Correct timing of the switching sequence is handled by an external micro-controller which is used to control all aspects to the transverter. A 50 millisecond time interval between the two inputs to the power supply ensures that the relay has time to switch before power is applied to the amplifier. See reference 1 for details of the sequencer.

## Components and construction

Except for the L200 regulator, most of the components are readily available. The L200 regulator is a comparatively uncommon, but surprisingly inexpensive part and it can be purchased from Farnell Electronics. The DC-DC converter needs to supply sufficient power to drive the relay and the device used in the prototype delivered +/- 12 volts at 250 mA.

The prototype unit was built on 'vero-board', with U1 and Q1 bolted to the chassis which acts as a heat sink. No particular difficulties should be expected as there are no high speed or high frequency issues to contend with. Most of the components can be substituted for whatever suitable components the constructor has on hand. The various bias voltages and current limit level can be adjusted to suit the requirements of the particular amplifier being used.

Voltage levels and the comparator trip point should be adjusted using a dummy load instead of the actual amplifier module. The current limit can be checked by measuring the output current when a short circuit is applied to the regulator output. Note that the L200 regulator has a maximum current rating of 2 amps when mounted on a suitable heat sink.

## Conclusion

A circuit which provides adjustable and protected drain and gate bias supplies has been described. While the circuit is rather more complex than a standard supply, the protection provided against loss of gate bias or excessive current consumption will significantly reduce the possibility of damaging or destroying expensive and hard to get components.

**References**


1. Hughes, D.E. 'Transverter Controller'. Amateur Radio, January/February 2008, Volume 76, No 1 & 2.

2. 'A designer's guide to the L200 voltage regulator', SGS-Thompson Microelectronics application note.


**ar**

# The Haverford seven metre fibreglass telescopic pole

Ernie Walls VK3FM

Recently I came across a range of fibreglass telescopic poles marketed by Haverford Pty. Ltd., a Sydney based company better known for its range of fishing and pet accessories rather than anything that was likely to be of interest to an amateur radio operator.

The poles ranged in length from three metres to ten metres, in both heavy duty and standard design, with a minimum diameter ranging from 2 mm right up to 54 mm.

They seemed to be of high quality, and reasonably priced, and I, at least, had never noted an Australian source for this type of item before.

OK, very interesting, but of what use might one actually be to me?

That thought crossed my mind a number of times; in the end, I decided to purchase one, essentially, to 'have a look at what it might offer' to an amateur – in mind was that it just might be a useful dipole end-mast, maybe even a centre mast for the same type of antenna.

At a delivered cost under $40, I figured I had not a lot to lose!

The seven metre heavy duty pole was ordered, and arrived two days later, well wrapped for its journey through the Australian logistics delivery system. Measuring just over a metre in length, and about 55 mm diameter, the circular package arrived in perfect condition.

I opened the package and removed the bottom stopper. Beware – the critter is very slippery – slippery poles sections, each about a metre in length, slid out of the largest pole, and went everywhere. Not a problem; shortly I had recovered my equilibrium, and began to assemble it. This took very little time, or effort, and soon I had an interlocking pole of some seven metres length.

It looked fragile, but was in fact remarkably stable and flexible. I was determined to at least 'get the thing in the air', at one end of a homemade dipole. It did need guying, which was achieved with light nylon twine, and this had the effect of keeping the pole straight and, it seemed, relatively stable.

And one end of my 40/80 metre inverted vee was seven metres off the ground.

Wonderful.

I intended to give it an 'in situ' test before I operated portable from VK2, given that it did seem, to me at least, that the pole might very well do this job for me a whole lot easier than the 25 mm piece of water pipe currently used – with less weight, more flexibility, and the option of a variable height if thought beneficial.

I did, and it was.

Is it the discovery of ham radio's latest 'big thing' – no, but as a lightweight, portable, flexible use mast, it turned out to be of significant benefit to my portable antenna set up, and well worth the expense. And for amateurs wanting to build a quad antenna, or one of the variety of 'umbrella' type antennas, or, I imagine, any one of a number of amateur projects requiring a fully portable, extendable mast, one or several of these poles could be just what you need.

At the very least, have a look at what is on offer.

If you Google 'Haverford' you should find it easily enough.

Haverfords also sell, for around eight or so dollars, a 'beach spike which looks like a very handy way of mounting your pole in softer soil. It is shown in the inset picture below.

**ar**

### *Editor's note*

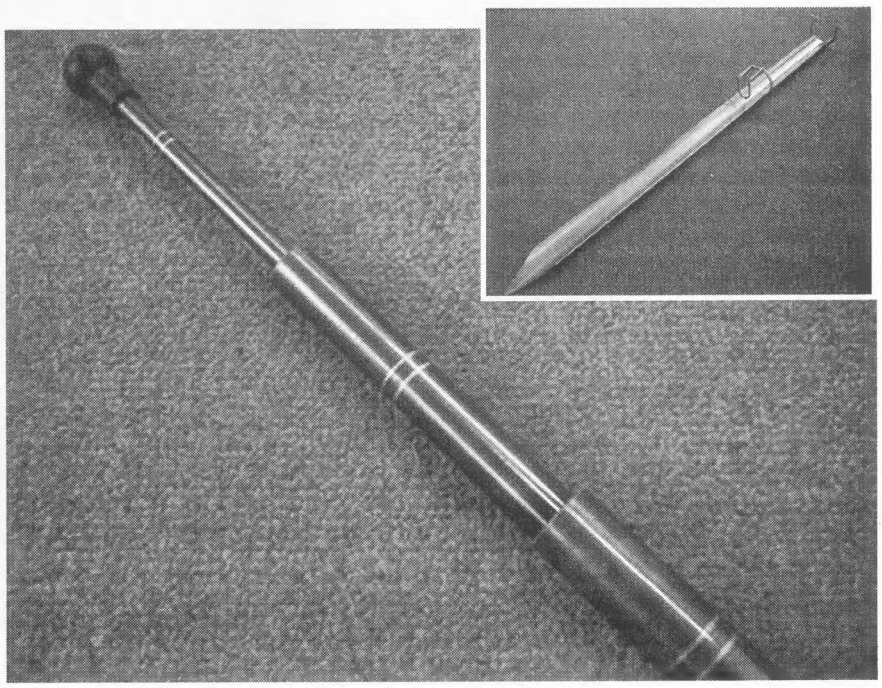
These poles are truly ubiquitous, ending up in places not envisaged by the originators...

On page 33 of this issue is a photograph of two of the squid poles mounted on a DXing vehicle about 750 km from the nearest salt water jetty.

Desert 4WDers use them to fly a flag, called a sand flag, about 3 metres above the bull bar so that vehicles can be seen a lot earlier when cresting rises, a little like the flags on electric scooters.

They are frequently used to carry mock Tibetan prayer flags as an advertising medium.

An excellent reference on using squid poles for antennas can be found on the VK7JJ web pages http://perite.com/vk7jj/squidpoles.htm



# Using RG58 coaxial crimp connectors with RG6 cable

Garth Jenkinson VK3BBK

**RG6 (75 Ω) coaxial cable is readily and cheaply available as it is commonly used for domestic cable and satellite TV.**

RG6 TYPICALLY HAS 12 to 15 dB per 30 metres less loss than RG58A or RG58C (50 Ω) cable. For some applications using RG6 in place of RG58 can provide great benefit. Consequential 50 Ω -75 Ω mismatch and SWR degradation may be far less important than the greatly reduced cable loss.

Crimp-type coaxial connectors for RG58 cables are readily obtainable for BNC, N, PL259, TNC and others. Unfortunately for larger cable sizes such as RG6 it is becoming difficult to find crimp connectors as they are no longer being stocked by popular parts suppliers. However RG58 crimp connectors can be satisfactorily used on RG6 and some other cables using the following procedure.

1. Remove the outer sheath of the RG6 cable for a total length equal to that required by the connector *plus the length of the metal crimping sleeve.*

2. Remove any burrs from the crimping sleeve and slide it onto the RG6 cable over all its braid and aluminium foil until the sleeve touches the remaining outer sheath.

3. Slide a length of heat-shrink tubing over and beyond the crimping sleeve. It must be large enough to slide back over the sleeve once crimped, and long enough to cover the finally-re-exposed screen and sleeve.

4. Unplait the screening wires and fold them closely over the crimping sleeve.

5. Cut the aluminium screening foil down to the crimping sleeve with fine scissors (sharp knives tend to tear the foil) to form three or four lengthwise strips. Fold these strips over the braid and sleeve. Note that some RG6 cables have an insulating layer on the inside of the foil. If yours has, you must fold the foil lengthwise such that the insulating layer is on the inside. The metallic side must contact both the plug body and sleeve before crimping (See Photo 1).

6. Remove the inner conductor insulation down to within about 1 mm from the crimping sleeve.

7. Recover a piece of inner conductor insulation from an RG58 offcut and trim it to the same length as would be required if assembling the connector onto RG58 cable. Gently twist it onto the RG6 solid inner conductor until it meets the remaining RG6 insulation.

8. Remove any burr from the body of the connector.

9. After soldering the centre pin onto the RG6 centre conductor, use fine sidecutters to very carefully remove melted oversize edges of the inner insulation so that the pin and insulation will slide smoothly into the connector. Then complete the connector assembly exactly as for RG58. See Photo 2 for a view of the cable and a BNC connector ready for final assembly and crimping.

10. After crimping the sleeve onto the connector, use a section of the removed RG6 outer jacket to re-cover the exposed screen, then slide the heatshrink tubing over it and the crimped sleeve, and shrink it.

ar

Photo 1: RG6 cable which has insulation on the inner surface of the foil, with the foil twisted to ensure electrical connection.

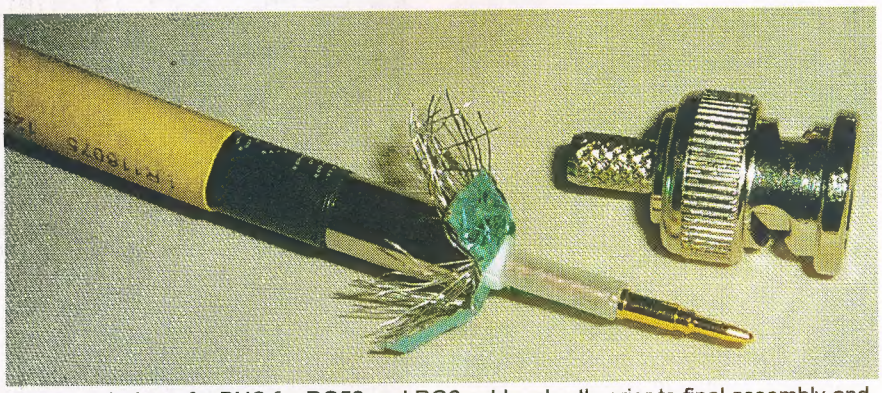


Photo 2: A view of a BNC for RG58 and RG6 cable, shortly prior to final assembly and crimping.

# Part 2 of 3

# A complete 8 MHz IF System for USB, LSB and CW for a HF Transceiver

Peter Wathen VK3EPW

**This is the second of three articles by the author describing the workings and construction of a complete HF transceiver IF system. As he notes in the article, it is the part of a HF transceiver that he is currently using himself, covering the 80 metre, 40 metre, 30 metre and 20 metre amateur bands for both SSB and CW operation. The article is presented in three parts:**

1. **The BFO or carrier oscillator module. (December 2009 *AR*).**
2. **The crystal filter module (mounted on the IF board). (This issue).**
3. **The complete IF module, RF to speaker, microphone to SSB, or CW send to RF carrier generation.**

## Crystal filter module

This is part two of the IF system. It describes the construction of the crystal filter module. I have attached two circuits for the crystal filter module; refer to Figures 1 and 2.

The first circuit is a filter that is in use at the time of writing, which is a seven pole crystal filter. The second circuit is an eight pole crystal filter that I am constructing as I write this article; it makes it much easier to describe the construction and adjustment of the circuit.

The eight pole filter will become the replacement for the seven pole filter; it is an upgrade as it should have a sharper response curve which should mean better attenuation of the unwanted side band as well as better attenuation of close unwanted signals. Refer Figures 3 and 4.

Both filters use 8.000 MHz crystals available from RS Components. I used RS 472-0253 in the seven pole filter, which I see are now discontinued, and replaced with RS 547-6216. I will be using these in the eight pole filter.

### How did I arrive at the design?

I looked through some older ARRL Handbooks that I own. The most attractive SSB filter shown was a type called a 'ladder filter'.

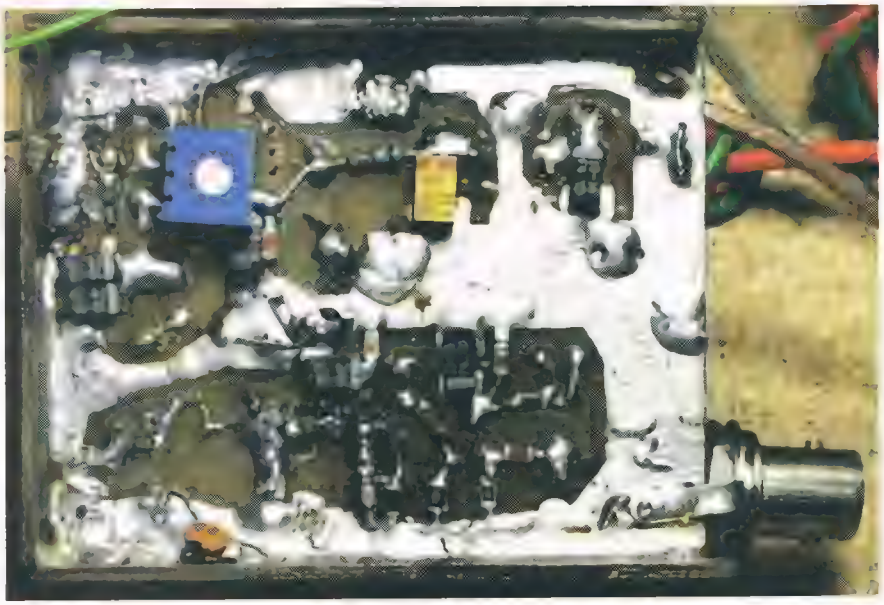


Photo 1 (Top right): The test oscillator, top side.

Photo 2 (lower right): The test oscillator, bottom side.

While the information about the filters in the Handbooks was very thin, it looked attractive as it used a quantity of the same crystals to make the filter, making it possible to use some of the common 'off the shelf', cheaper crystals. The Handbooks gave examples of ladder filters made by other amateurs, which used very different capacitance values.

No real design information was presented in the Handbooks other than the mention of impedance being variable depending on the crystals and bandwidth being inversely proportional to capacitance values used in the filter.

## Test equipment first

Not being an engineer and having no design information, other than basic parameters, I needed to devise a way to test and evaluate filter performance. The best way I know of to do that is to use a sweep oscillator to sweep across the filter frequency while being synchronised to an oscilloscope X axis input. The display on the oscilloscope will be frequency across the X (horizontal) axis and amplitude through the Y (vertical) axis.

The sweep oscillator is an adjustment aid; it shows the result of your adjustments in slow but real time. When the filter has been adjusted correctly with the sweep oscillator you can do an accurate plot using an accurate frequency source (signal generator) and a spectrum analyser or oscilloscope. The reason for the accurate plot of the filter is simply to determine what frequencies are needed for the USB, LSB and CW beat frequency oscillators.

I have attached a circuit of the sweep generator I used, refer Figures 5 and 6. It was put together on two PCBs, the RF section, saw tooth amplifier and regulator being on one PC board put together in a PCB box type construction and the digital saw tooth generator PCB screwed to the side of the PCB box. I used both through-hole and surface mount components, with most components coming from my junk box.

This was going to be a one-time only circuit which I wanted to spend as little money on as possible. A couple of photos of the sweep oscillator are included, refer Photos 1 and 2.

## A brief description of the sweep oscillator circuit

First, the RF oscillator. I used a BC547 in a Colpitts configuration. The feedback capacitors are formed by stacking two 220 pF SMT capacitors on top of each other to make the 440 pF shown on the circuit.

Surface mount resistors and capacitors make it very easy to save space by soldering one component down to the board then soldering another of the same size on top. I have used up to three high but after that it is time to spread them out.

The inductor was made with 0.25 mm enamelled copper wire, 29 turns wound on the glass from a 5AG fuse. It is about a 5 mm outside diameter, long glass fuse. The metal end caps of the fuse are removed by heating with a soldering iron and removing them with pliers. The glass section is then used as the former for the inductor. The turns are held in place with epoxy resin. I also used epoxy to glue the glass former to the circuit board. Refer Photo 1 for a view of the inductor.

Two trimmer capacitors were used, one to provide a main tune and one to provide a fine tune. The oscillator sweep function was provided by a high voltage zener diode, 15 to 33 V 400 mW; you can

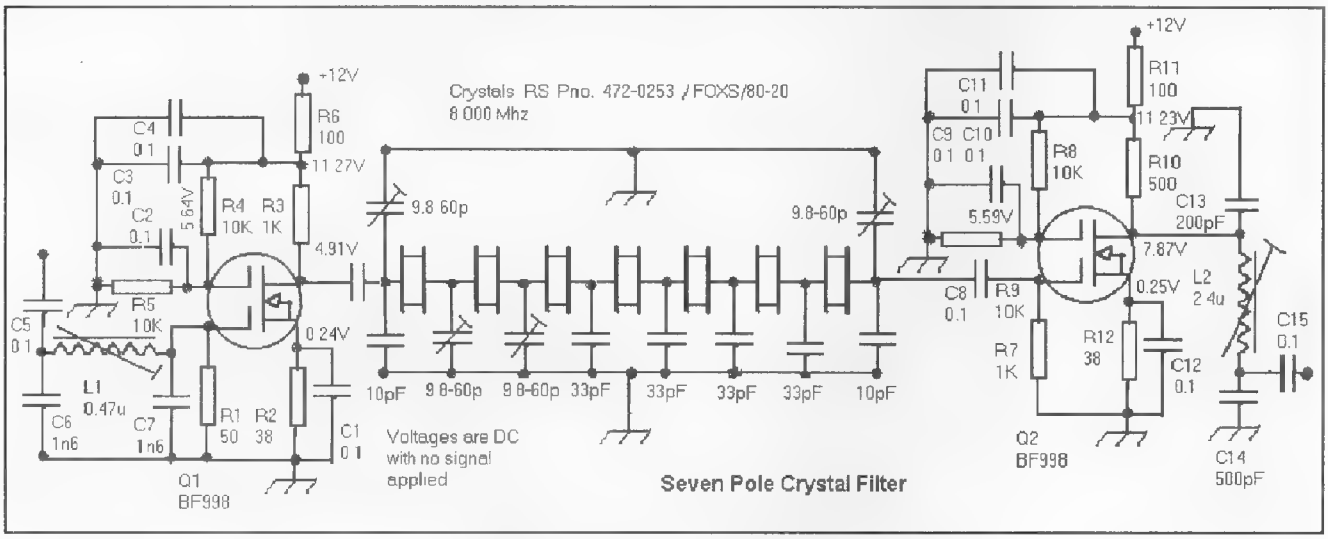



Figure 1: Seven Pole Crystal Filter

Note: Filter was adjusted first with a simple sweep test oscillator around 20 kHz sweep width and sweep rate around 1 Hz. Oscilloscope used as a display with sweep oscillator driving X axis and filter output driving Y axis. After initial adjustment, I used a PLL generator to draw a step by step graph in 100 Hz steps using a spectrum Analyser to dB output levels.

| | | |
|---|---|---|
| Test Oscillator output | 200 mV PP | Test Oscillator output impedance = 50 ohm |
| Drain Q1 | 1.4 V PP | |
| Crystal side C8 | 1.3 V PP | Output of filter module loaded with 50 ohm |
| Drain Q2 | 1.1 V PP | |
| Output | 700 mV PP | AC measurements made with test oscillator set to filter minimum attenuation frequency |
| Gain in dB | 10.88 dB | Input and output impedance of filter module is 50 ohms. |

also use one watt zener diodes; the higher the voltage the lower the capacitance change and the lower the power rating the lower the capacitance. I use them in place of varicaps.

The output of the transistor oscillator is taken from the collector 100 Ohm resistor through a 0.02 uF capacitor and is buffered by an MPF102 JFET amplifier, the output taken from its source, roughly 50 ohms out.

The saw tooth wave form used to drive the RF sweep and the oscilloscope X axis input is generated from a separate circuit board using two CMOS ICs. A 74HC00 is used as an RC oscillator with the fourth gate used as a buffer; the output of the oscillator is then fed to a binary counter IC, CMOS, MC14020/4020B. The top eight bits of the 4020 counter are fed to a simple resistive network digital to analog converter.

The resistor network is called a 2R network. I like the 2R network when using surface mount resistors because it uses lots of the same value. The 2R value I used was 10 k which meant that the R value could be made by stacking two SMT 10 k resistors on top of each other (5 k); it is almost like cheating.

The output of the resistor network is then filtered with a 0.1 uF capacitor to ground and fed to the op amp inverting input through a 56 k resistor. The op amp has a 50 k trimpot (VR3) attached to the non inverting input. The trimpot is used to adjust the output saw tooth wave form to be centered across the output voltage range of the op amp. The wave form should not be clipped top or bottom – this is very important.

The output of the op amp is fed to two trimpots, one going to the zener/varicap in the RF oscillator circuit. It becomes the sweep width (frequency) adjustment; and the other trimpot wiper is connected through a cable to the oscilloscope X axis input; this trimpot is then used as a sweep width control for the oscilloscope.

As you can see from Photos 1 and 2, the sweep oscillator was changed in design quite a few times on the one PCB. It was built as a low cost one time only piece of test equipment with components from the junk box. Note: It is a very slow saw tooth ramp and needs to be DC coupled to the oscilloscope. Make sure your oscilloscope has its X channel set to DC. If it is correct the sweep will look continual. As soon as it finishes to the right, it should be starting again on the left, if it is not doing that either the wave form is clipped or it is not DC coupled.

Note: The LF353 op amp was just one I had lying around and almost any general purpose op amp will do here, TL082/ TL072.....

Note: If you are keen you can add more resistors to the 2R network and attach the other successive outputs, up to 11 bits, as it will give a much finer sweep.

## The crystal filter module circuit description

At last, the filter circuit description.

When I first experimented with the ladder crystal filter design I quickly found out that the books were correct in saying that the input and output capacitances of the filter network were critical and that they needed to be fed from a resistive load; that is why I have designed the crystal filter as a module with a MOSFET amplifier at both inputs and outputs; they isolate the crystal filter network and feed it with a resistive termination at both input and output and also provide a little gain at the same time.

The input to the IF system needed to be 50 Ohms, that enabled it to be connected to other modules in the transceiver through a coax cable and also enabled it to match the impedance of the diode

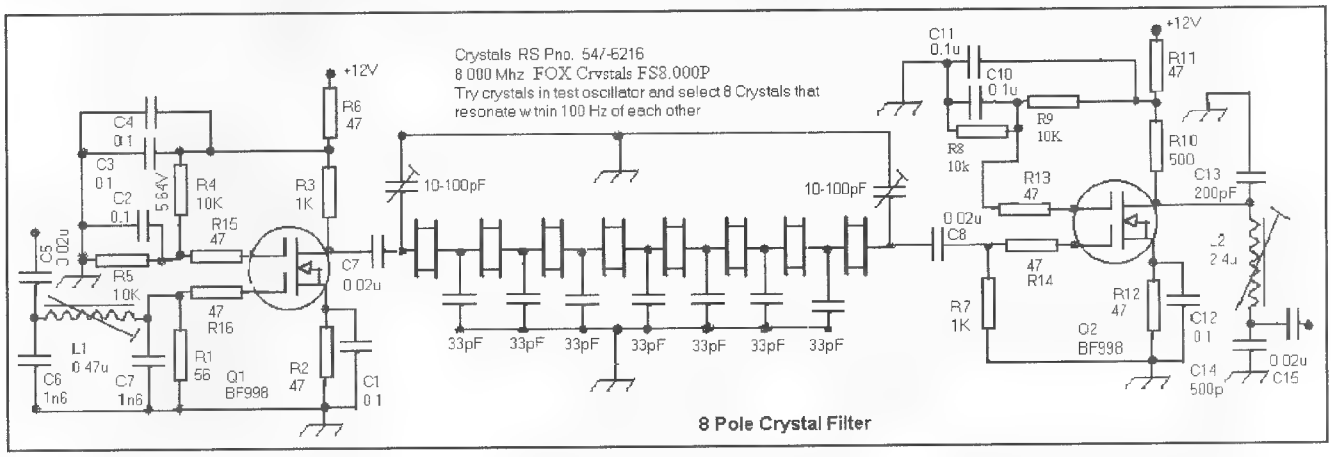



Figure 2: 8 Pole crystal filter circuit

Note: Filter was adjusted first with a simple sweep test oscillator around 20 kHz sweep width and sweep rate around 1 Hz. Oscilloscope used as a display with sweep oscillator driving X axis and filter output driving Y axis.

| | | |
|---|---|---|
| Test Oscillator output | 110 mV | Test Oscillator output impedance = 50 ohms |
| Output | 1.1 V PP | Output of filter module loaded with 50 ohms |
| Gain in dB | 20 dB | Input and output impedance of filter module is 50 ohms. |
| AC measurements made with test oscillator set to filter minimum attenuation frequency | | |
| All capacitors 0805 or 1206 surface mount | | |
| All resistors 0805 or 1206 surface mount | | |
| L1, L2 are Toko inductors (292CNS-T1044Z) available through Eaton Electrics in bulk quantities. | | |

ring mixer I used in the front end of the transceiver. The input to the filter module is first fed to an 8 MHz Pi network, 50 Ohms in and out. The output of the Pi network is terminated with a 56 Ohm resistor which also serves as the G1 resistor for the MOSFET input amplifier. Gate 1 of the MOSFET is inherently very high impedance so terminating it with a 56 Ohm resistor effectively sets the G1 impedance to 56 Ohms.

Designing the circuit this way has a few benefits. First the impedance can be set by the resistor on G1. Secondly by using 56 Ohms it allows for stronger signal handling by G1 as lower impedance means lower voltages and thirdly it lowers the gain of the stage; this is a good thing as the amplifier is meant to be a low noise, high signal handling impedance converter (50 Ohm input to 1 kOhm output for the ladder filter network). G2 is fed with a DC voltage and is used to control the gain (bias) of the amplifier. The output of the MOSFET amplifier is taken from the drain, it has a 1 kOhm resistor to provide a load; it makes a resistive 1 kOhm load to the input of the crystal filter network.

The output of the crystal filter network is terminated with a 1 kOhm resistor and fed to G1 of the MOSFET output amplifier; again, as the input impedance of the MOSFET G1 is very high, the 1 kOhm resistor is used to set the impedance and, again, also provide a nice resistive load for the crystal filter network.

The MOSFET output amplifier has a 500 Ohm (two 1 kOhm resistors in parallel) resistor in the drain circuit as a load, the drain output being fed via a coupling capacitor to a Pi network which is used as an impedance converter, 500 Ohms at the drain side and 50 Ohms at the output. The crystal filter network is a ladder network as shown in the ARRL Handbook; it has the crystals in series with each other and a capacitor to ground at each junction. The values that I arrived at for the particular crystals used was 33 pF. The terminating capacitors are variable 10-100 pF and are used to adjust the shape of the filter; they are critical (I used trimmer capacitors from Jaycar).

Note: Not all crystals are the same and not just any crystal will work in this circuit. To select crystals for the filter, I set up an oscillator. I used the sweep oscillator with the input coupling capacitor, 33 pF, lifted and the crystals tacked between the open end of the

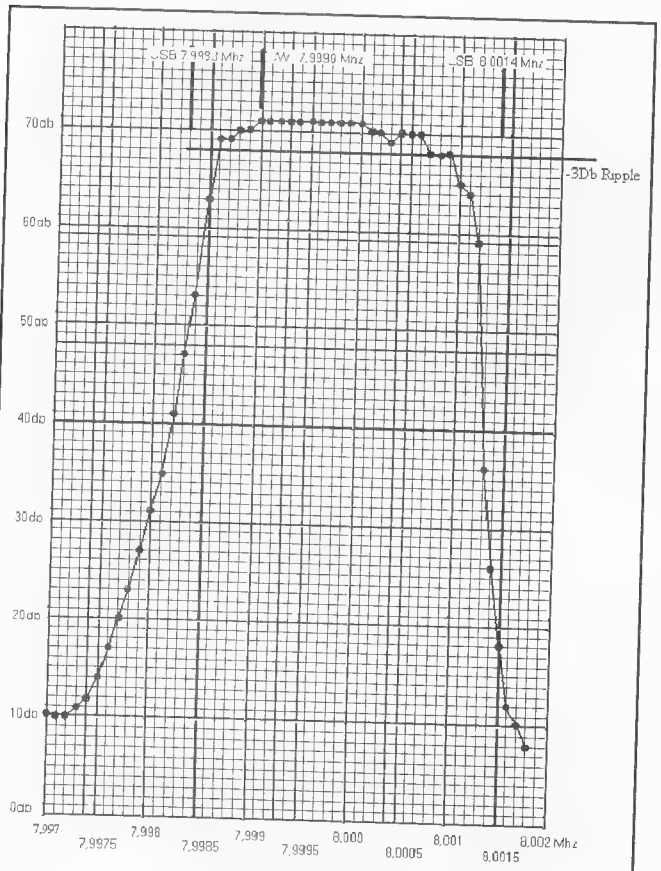



Figure 3: 8 pole filter plot

3 dB bandwidth 2300 Hz

Oscillator frequencies for: CW 7.9990: MHz

USB 7.9983 MHz LSB 8.0014 MHz

This manual plot of an 8 pole crystal filter using 8 MHz crystals from RS Components PN. 547-6216. Manufacturer's Part No. FS8.000P Fox Crystals

I used the Sweep Oscillator with its 33 pF coupling capacitor lifted to test the frequency of each crystal, sticking masking tape (cut small) with the frequency written on to each crystal.

The closest 8 crystals were selected for the filter. I placed them in ascending order from the input side.

Frequencies were all within 100 Hz in the crystals I selected.

7999536, 7999540, 7999544, 7999555, 7999560, 7999573, 799575, 7999579 (all Hz) were the frequencies of the crystals used in this filter.

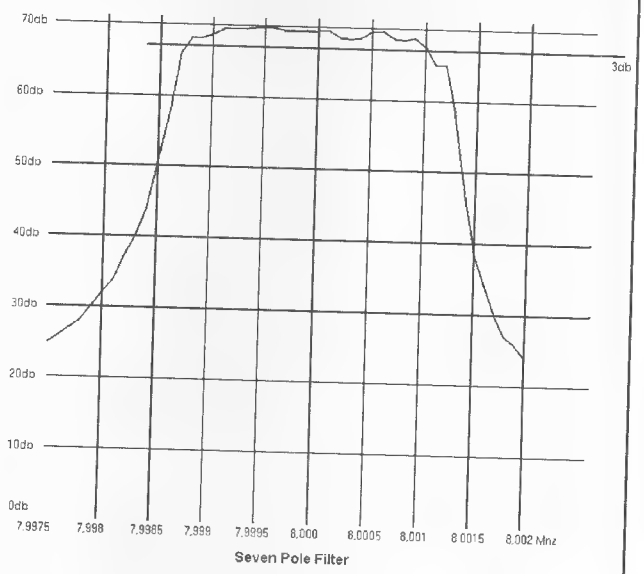



Figure 4: 7 pole filter plot.

3 dB bandwidth 2300 Hz

Oscillator frequencies for: CW 7.9990 MHz:; USB 7.9983 MHz; LSB 8.0014 MHz

This manual plot of a seven pole crystal filter using 8.0000 MHz crystals from RS Components PN. 472-0253. FOXS/080-20. Sold in packs of five. 2 packs were bought, then each crystal was placed one by one into a Colpitts transistor oscillator with 33 pF across the crystal and 33 pF feed to the base of the transistor. Feedback caps were 440 pF.

The closest seven crystals were then selected for the filter.

coupling cap and ground. Give each crystal five minutes to settle then note its frequency, label each crystal and sort them out. The crystals I used all were within 100 Hz of each other and I placed them in the circuit in ascending order. I have no idea if that has anything good going for it, it is simply what I did.

## Adjustment of the filter

The first thing to do is to get the sweep Generator operating at 8 MHz, set the fine tune trimmer capacitor to 50% and adjust the sweep frequency width trimpot to full, that is, full saw tooth voltage on the zener diode or varicap, which ever you used.

Note: Use a spectrum analyser or an accurate radio to tune the oscillator as it will be sweeping and a frequency meter will be useless.

Connect a coax cable from the output of the sweep oscillator (RF) to the input of the filter module. Connect the output of the filter module to the Y input of your oscilloscope; at this point leave the oscilloscope in normal mode. If the output is near 8 MHz you should be able to see an 8 MHz RF trace pulsing in amplitude; either way adjust the main tuning trimmer capacitor very, very slowly until you see the RF envelope come up in amplitude. Adjust your vertical sensitivity (oscilloscope) to get a decent size trace on the oscilloscope and then adjust the input Pi network inductor (filter module) for a peak in amplitude. Next adjust the output Pi network (filter module) for a peak in amplitude.

Connect the saw tooth output from the trimpot on the sweep oscillator module to the X axis input of your oscilloscope, and set the oscilloscope up for external sweep, DC Coupling. You should now have a very slow sweep across the face of the oscilloscope. Adjust the X axis trimpot of the sweep generator to get a full sweep; you will probably have to adjust your horizontal sweep position to centre the sweep. If you adjusted the RF output of the sweep oscillator correctly you should now have an RF envelope on the screen. Adjust the fine tune trimmer capacitor (sweep oscillator) to centre the envelope. Adjust the two trimmer capacitors in the filter module to get the maximum RF output first then adjust for the cleanest envelope shape, that is, the lowest size ripple.

That is the adjustment done. Take away the sweep oscillator, and now use an accurate RF signal generator and a spectrum analyser (or receiver if you have one with an accurate S meter, remember this is only a relative measurement to get the shape of the filter. I used 100 Hz step sizes from my

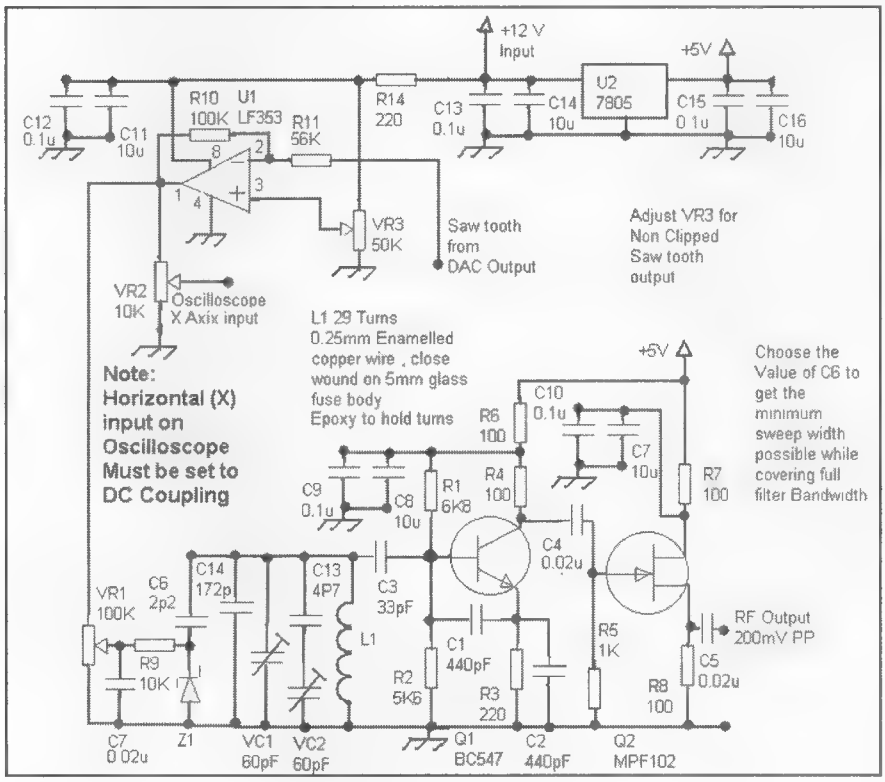



Figure 5: Test sweep oscillator circuit.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signal generator to manually do the plot on some graph paper. Hopefully after all is said and done you have a filter shape like mine and can use the same BFO frequencies. If you look at the plots of the seven and the eight pole filters, refer again to Figures 3 and 4, you will see clearly that the eight-pole will be a great upgrade for the transceiver.

After this I disconnected and did the manual plot. This is the eight pole filter. Luckily the camera took a long exposure, that is why it looks like several traces; in real life I needed to turn out the lights and turn the intensity up to see the trace as it is very slow, less than one Hz, and I have a standard CRO.

## Construction notes for the crystal filter module

The crystal filter module should follow the same construction practices for all RF circuits. The input should be at one end of the circuit board and the output should be at the other end; it is very important that the crystals be laid out this way to avoid RF leakage between input and output.

I made a few mistakes in the layout shown. I forgot the input coupling capacitor, very important. I cut the track between the Pi network input side and the input pad, and then soldered in a surface mount capacitor across the gap. The layout was made for SMT HC49 crystals which I found out later were through-hole types; easily fixed, just drill holes.

I also managed to do the layout with one of the MOSFETs mirrored. The MOSFET package is very handy for this mistake. Place the MOSFET package upside down in the correct spot on the PCB (I use the point of the scribe to push down on the black package) then with the point of a pair of tweezers or a small instrument screw driver, gently push down the pins that are now pointing up in the air.

When all four are pointed down, put some solder on the tip of your iron and while still holding the package down with the scribe, tack solder one pin. You can now remove the scribe and solder the remaining pins in place correctly and then re-solder the tack solder joint. The same technique as above works well for soldering most surface mount components to a PCB.

Surface mount resistors and capacitors are 0805 and/or 1206 sizes and are available through RS Components and Farnell Components. Crystals are available from RS Components. I was lucky; I bought two packs of five and managed to find eight of them within 100 Hz of each other. Two crystals were well outside that range, so it might be wise to buy three packs. The BF998 MOSFETs are available from RS Components. Trimmer capacitors were from Jaycar. Milo is available from the supermarket! Buy the non-ribbed tins, or if you have friends that drink it, get the tins from them. Blank PCB is available from Jaycar or Dick Smith. I find the 300 mm x 300 mm the most economical.

I made the layout using some freeware available on the internet, *'Eagle Soft Lite'*. It is limited and a little tricky to master the software (I found) but it allows you to print out the layout in actual size and to mirror the print.

I used a PCB marking pen to make the layout on the PCB. As the connections were mostly for surface mount components, I used a metal scribe to mark the circuit board where these surface mount components were to be located. Press the point in gently to make a dot (the printed layout was taped to the PCB copper side), this made it a lot easier to do the drawing with the 'Dalo' pen.

Even after I had scrubbed the PCB with dry, non soaped steel wool, ready to use the 'Dalo' pen the scribe points were still clear. When the circuit board was finished the sides were filed straight and then I cut tin from a 'Milo' tin to make the enclosure, which you may note from viewing Photo 1.

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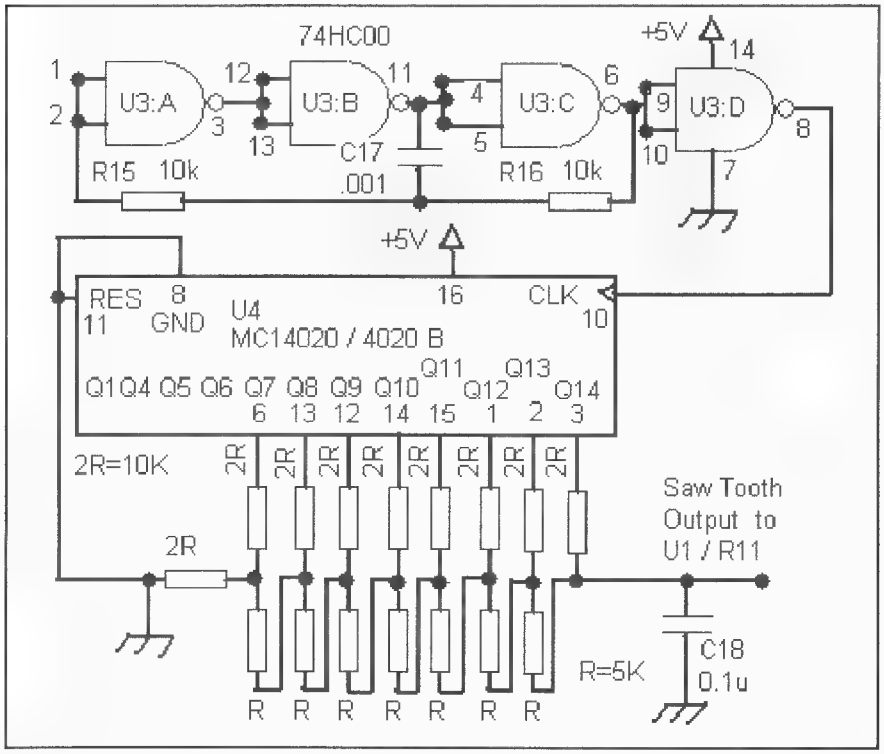


Figure 6: Circuit: saw tooth generator


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| Antenna | TEV-4 | TEV-3 | TEV-3 WARC |
|---|---|---|---|
| FREQUENCY | 7, 14, 21, 28 MHz | 14, 21, 28 MHz | 10, 18, 24 MHz |
| ELEMENT HEIGHT | 4090 mm | 3800 mm | 5025 mm |
| FEED IMPEDANCE | 50 ohm | 50 ohm | 50 ohm |
| Max. RADIAL LENGTH | 10.7 metres | 5 metres | 7.5 metres |
| SWR | 1.5 or less | 1.5 or less | 1.5 or less |
| POWER RATING | 1 kW | 1 kW | 1 kW |

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Amateur Radio Victoria

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- ✓ **Live aeronautical amateur TV with Peter Cossins VK3BFG**
- ✓ **Historical and military radio displays**
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- ✓ **Bendigo District Astronomical Society**
- ✓ **CQ Awards QSL checking with VK3PA**
- ✓ **More details on 7 February VK1WIA broadcast or www.radiofest.amateurradio.com.au**

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See the application form and conditions on the website radiofest.amateurradio.com.au

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**Entry tickets $10:** Go on sale at 9am with the gates opening at 10am. Free entry to children aged 12 and under. No pets or alcohol.
**Door prizes:** Entry tickets will be drawn for the winners of available door prizes.
**Venue:** Kyneton Racecourse, Campaspe Place (off Beauchamp St), Kyneton, only 50 minutes from Melbourne and an hour from Ballarat and Bendigo. Plenty of free parking.
**Info and talk-in:** Mt Macedon 2m repeater VK3RMM 147.250MHz from 7.30am to 10.30am on the day.
**Email:** radiofest@amateurradio.com.au
**Info:** www.radiofest.amateurradio.com.au

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## Weak Signal

David Smith VK3HZ

**The summer season started off slowly but has picked up in recent days producing some excellent conditions. There has been so much activity I will just summarise the highlights.**

On November 20th at 1600 Z, Nick ZL1IU reported hearing his old friend the VK2RSY 2 m beacon. Two hours later, he worked Steve VK2ZT near Newcastle on 2 m with a 5x5 report. Other contacts were also made. Conditions were improving and at 1949 Z, he worked Ross VK2DVZ on 70 cm with 5x5 reports. VK4 stations were getting into the action with John VK4JMC working Nick at 2045 Z at 5x2. At 0349, after several attempts, Ross and Nick worked on 23 cm at 5x1 – the first VK-ZL 23 cm contact for the season. The opening continued strongly into next day with VK2DVZ and VK2AMS working Steve ZL1TPH on 23 cm. Many more VK2 and VK4 to ZL contacts were made before the band closed during the day on November 22nd.

On the morning of November 23rd, the band opened across the Bight from VK5 to VK6. Brian VK5BC was getting strong signals from Wally VK6WG with a 5x9+ report on 2 m and 5x9 on 70 cm. At 2217 Z, they succeeded on 23 cm with 5x1 reports over a distance of 1910 km.

The first 2 m E's contact occurred on at 0250 Z on November 29th between John VK4FNQ and Brian VK5BC. Over the next hour, a number of VK4 to VK5 contacts were made. Alan VK3XPD also worked John VK4FNQ to put another "angle" on the E's path.

Early on December 22nd, Brian VK5BC reported VK6 2 m beacons from Esperance, Albany and Bunbury were pounding into Adelaide but no VK6 stations could be raised. VK3 signals were also very strong. At 2248, Alan VK3XPD worked Wayne VK6JR in Yallingup on 2 m at 5x1 over 2745 km. Beacons were heard for some time.

On the evening of December 28th, another strong opening appeared across the Bight. At 1206 Z, Rob VK6LD in Denmark worked Nick VK3VFO on 2 m at 5x1 over 2620 km. Following this, Rob worked David VK3AUU and Mike VK3KH, both on 2 m.

December 30th brought a repeat of conditions of the previous year with a tropo opening from ZL1 into central VK3. This had previously been considered near impossible with the Victorian Alps blocking the VK3 end of the path. However, this year has shown that last year was not a fluke!

At 0230 Z, ZL1IU reported hearing the VK3RGI 2 m beacon in Gippsland at 5x5. At 0420 Z, he worked VK3UCQ (2435 km) followed at 0745 Z by Norm VK3DUT (2338 km) up to 5x5. At 0902 Z, it was VK3ALZ (2454 km) on 2 m and later on 70 cm, at 0941 Z VK3EK (2350 km), and at 1100 Z VK3AUU (2505 km), VK3EBQ (2454 km) and VK3AKK (2650 km) – the longest distance contact.

David VK3AUU, a veteran of 55 years operating on the VHF/UHF bands was very pleased to work his first ZL on 2 m. VK3VFO operating portable in Gippsland worked Nick on 2 m using just 500 mW. The following morning, Nick worked Rex VK7MO on 2 m SSB at 5x9 and then on 70 cm CW at 4x1 over 2431 km.

After being quiet (for E's) for most of the month, the last few days of December saw the 2 m band jumping with E's openings. A large E cloud formed in central NSW and there were contacts criss-crossing the area from FNQ to VK3, VK5 to VK4 and VK2 and many other combinations. The map of Spots,(below right) on the VK Logger taken at 0230 Z on December 31st gives an indication of what was happening and where the cloud seemed to be located.

On the afternoon of December 31st, David VK4ZDP near Innisfail in FNQ worked many stations in southern VK3 over distances of greater than 2250 km.

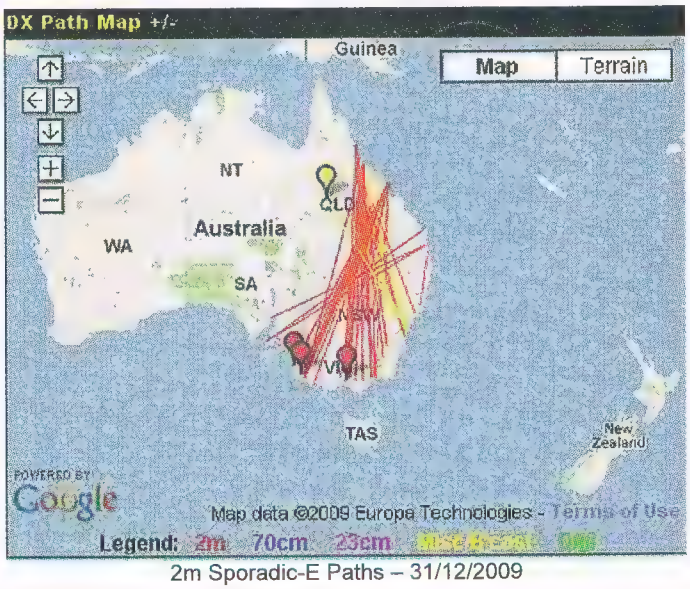
On the morning of January 5th, a high-pressure cell had settled over Bass Strait producing good conditions between VK7 and VK5. Norm VK7AC worked many stations in Adelaide on 2 m and 70 cm. At 2152 Z, he worked Brian VK5BC/P at Corny Point on 70 cm (5x8) and 23 cm (4x2) over 1127 km.

At 0135 on the 5th, Nick ZL1IU worked Phil VK5AKK (3182 km) at 5x3 and Jeff VK5GF (3179 km) at 5x5 in an E's opening – either double-hop or possibly tropo-enhanced as he later worked into VK3 via strong tropo enhancement.

The tropo enhancement across to ZL continued the following day. At 2046 Z, Ross VK2DVZ worked Stephen ZL1TPH on 23 cm at 5x2 over 1902 km.

January 8th, once again saw good tropo conditions, this time from the ZL4 to VK2. ZL4TAE/P had set up portable on the mountains in the middle of South Island and was getting signal reports up to 5x9 from stations along the VK2 coast. He even managed to work inland to Mark VK2EMA at Tottenham over a path of 2293 km. Mark was very pleased to work his first ZL since 1985.

January 9th saw a good tropo opening across the Bight from VK3 and VK7 to VK6. At 0325 Z, Norm VK7AC worked Wally VK6WG on 2 m at 5x1 over a distance of 2633 km. At 0520 Z, Phil VK5AKK worked Wally on 23




2m Sporadic-E Paths – 31/12/2009

*different. I have just seemed to take a bit more interest in it this year.*

*The ducting is usually quite extreme in the summer months here in the North West. I think it is one of the "hot spots" for tropo around Australia. But since there are only 2 active hams here in my area - including me - and none active along the coast within 500 miles of me, neither north nor south, it usually goes unnoticed. Sometimes the ducting gets so extreme that we have to shut our local repeater off when the Indonesians hammer our repeater "input" with singing and music.*

*Some highlights so far:*

*27-10-09 - From Wickham, W.A. (OG89nh) I was able to key up 11 different unknown repeaters presumed to be in Indonesia. Notable repeaters with S9 signals that evening were, repeaters on 147.860 (-), 146-660 (-) and 146780 (-). I also had a QSO with "Wan" through the 146.780 repeater. Unfortunately, Wan did not really speak any English and I do not speak any Indonesian but I was able to extract his location as Jakarta.*

*28-10-09 - I was able to key up the Exmouth repeater VK6REX on 146.800 (-) with only a moderate signal strength of S5. This repeater is about 350 km down the coast from my location.*

*30-10-09 - Four repeaters presumed to be in Indonesia were again keyed up on this evening with 147.860 (-) and 146.660 (-) having S9 signal strengths. It is interesting to note that I worked Michael VK6BHY in Karratha approximately 25 km away from my location through the 146.660 (-) repeater presumed to have a location somewhere in Indonesia. That is a long haul to talk to someone only 25 km away - probably well over a 1000 km!*

*16-11-09 - Again multiple stations heard from what I assume to be Indonesia. This time there seem to be numerous stations on simplex too. Signal strengths did not appear to be as strong as previous, but there appeared to be more stations heard.*

*Also on this evening, the Exmouth repeater was S9. I called and called CQ but no answer.*

Thanks Steve, and it sounds like there could be some interesting possibilities for long-distance contacts if only there were some weak-signal enthusiasts at the other end.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

# Digital DX Modes

**Rex Moncur VK7MO**

## FSK441

Welcome to Wayne VK5APN who made his first FSK441 meteor scatter contact with Waldis VK1WJ on 10 January 2010 on 2 metres. Wayne is just north of Adelaide and runs 100 watts to a 10 element Yagi. He says that thanks go to Peter VK5ZPG for mentoring him and getting him across FSK441 techniques and in particular the Australian FSK441 format. While he is a shift worker he says his appetite has been whetted and that he will be on during the FSK441 activity sessions as much as can.

## VK9NA Norfolk Island DXpedtion

At the time this report was prepared, the DXpedition by Michael VK3KH, Alan VK3XPD and Kevin VK4UH was still underway. Initial attempts at 2 metres FSK441 from their accommodation produced QSOs with John VK4JMC (1525 km) Adrian VK4OX (1504 km) and Steve VK2ZT (1587

VK9NA Team (L-R: Alan VK3XPD, Michael VK3KH and Kevin VK4UH)

## VK9NA Norfolk Island DXpedition

The VK9NA effort is currently underway, and Mike VK3KH has sent a note on their achievements to date:

*We have had a total of 229 contacts including:*

| | |
|---|---|
| 6 m: | 203 contacts including A35, E51, 3D2, VK1,2,3,4,5,6,7 and ZL1,2,3,4 |
| 2 m: | 21 contacts including SSB with VK4 and ZL1, plus M/S with VK2 and 4 |
| 70 cm: | 3 contacts all CW with ZL1 |
| 23 cm: | 2 contacts both SSB with ZL1TPH |
| 13 cm: | No contacts but CW heard both ways with ZL1TPH |

*The last few days have been very hard work as the promise of tropo has not yet eventuated.*

As I write this, the propagation has finally opened up for them back to VK. In the last two days, they have managed SSB contacts with VK2DVZ, VK2MAX, VK2AMS, VK2ZT, VK2KOL, VK2IDM, VK2IJM, VK2BCC, VK2HN and VK4JMC. The longest distance SSB contact has been to Rex VK7MO over a path of 2403.3 km.

km). However, results towards Sydney and further south were disappointing. A move to a better location on Mt Pitt produced a significant improvement in pings but now the pings were reported as distorted and undecodable. The longest distance undecodable pings reported were from Rhett VK3VHF at 2127 km. After investigation it was found that the FT817 being used at Mt Pitt was set to narrow bandwidth digital modes which took out some of the transmitted tones in FSK441 which requires a bandwidth from 600 Hz to 2400 Hz to cover the four FSK441 tones of 881, 1323, 1764 and 2205 Hz as well as the sidebands from these tones. On adjusting the FT817 for the wider bandwidth, the Mt Pitt operation produced much better results with QSOs being completed with Colin VK2KOL (1712 km), Starr ZL3CU (1660 km), Chris ZL2DX (1519 km), Ross VK2DVZ (1512 km) and Mike VK2FLR (1677 km). The longest distance completed contact was with Mark VK2EMA at 1999 km. Peter VK3PF copied two pings at 2236 km and the VK9NA team copied one single ping from Rex VK7MO at 2403 km on a day when there was good tropo providing an extension in that direction.

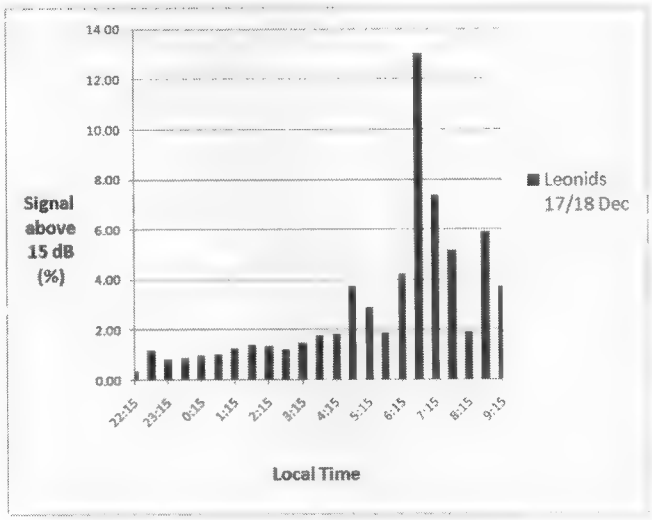
By 10th of January, a large high had moved into the Tasman and JT65a came to the fore with tropo ducting contacts on two metres: Mark VK2AMS (1516 km), John VK4JMC (1525 km), Steve VK2ZT (1587 km), Matt VK2DAG (1645 km), Colin VK2KOL (1707 km) and Rex VK7MO at 2403 km. Steve VK2ZT (1587 km) then completed on 70 cm on JT65c for the first VK9N to VK mainland 70 cm contact.

## Leonids 2009

NASA had forecast a sub storm at 1943 on 17 November - a time when the Leonids would be above the horizon in VK-ZL. This would be 0843 local on the morning of 18 November and a number of 2 metre operators were keen to take advantage of the opportunity for SSB contacts and others for longer distance FSK441 contacts

John VK4JMC was up early and after some two hours completed his first meteor scatter QSO with Bob ZL3TY using FSK441 over a distance of 2362 km. Waldis VK1WJ also completed with Bob on FSK441 over 2076 km.

As it turned out the Leonids peaked about an hour and a half early as shown on the chart (shown below) which was produced by Rex VK7MO who monitored the video carrier of Newcastle TV on 138.275 MHz using Spectrum Lab to measure signal to noise ratio at 0.2 second intervals. There was a second minor peak around the predicted time.



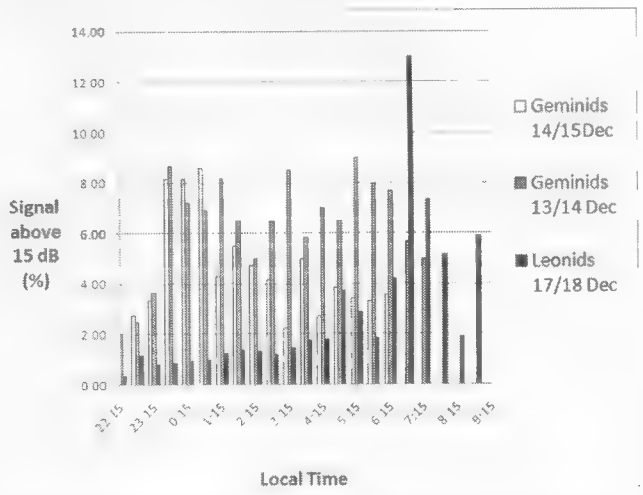

The best burn monitored during this period was just after 7:00 am local and was more than 15 dB above the noise for just over 2 minutes.

Around the time of the predicted peak time, 2 metre SSB operators were rewarded with some good contacts as follows:

| | |
|---|---|
| VK4DD VK3II | 1410 km |
| VK3AXH VK4NWH | 1404 km |
| VK3II VK4NWH | 1392 km |
| VK4DD VK4BEG | 1340 km |
| VK2XQ VK4NWH | 1291 km |
| VK4DD VK3DUT | 1253 km |
| VK2QO VK5BC | 1102 m |
| VK4DD VK4FNQ | 1050 km |

## Geminids 13 to 15 December

During the Geminids from 13 to 15 December, Rex VK7MO, again monitored Newcastle Channel 5A TV and compared the results with those found earlier with the Leonids in the graph below. Data was not gathered after 7:30 am on the 13/14th or after 6:15 am on the 14/15th due to standing skeds. It is interesting to see that while the Leonids produced a much stronger peak, the Geminids were much more consistent over a full evening.




Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.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# The Magic Band – 6 m DX

Brian Cleland VK5BC

November and December turned out to be very exciting on 6 m. The local summer E's seemed to be down on the last couple of years but this was well and truly compensated for by some exciting overseas contacts. Countries worked from VK and ZL included North and South Cook Islands, Willis Island, Tonga, Fiji, New Caledonia Singapore, West Malaysia, Japan, Philippines and highlighted by a great contact by Scott VK4CZ into Peru.

On the morning of the 13th December Scott VK4CZ worked Jack OA4TT in Peru over a distance of approx. 13108 km and Scott reports:

*I was outside building a retaining wall; covered in dirt and concrete dust I walked past the shack to see my 6 year old daughter had left the laptop running. So before turning it off I quickly checked VK LOGGER (as you do, even when spreading dirt and dust everywhere) and Jack had just logged in. He mentioned that he was calling CQ on 110... so, with my expectations set at zero turned my Yagi to 125 degrees.*

*But all of a sudden I heard '4TT' come from nothing to RST419. I was in complete shock.... for a moment I thought it was a ZL responding, but then Jack called again. This time a very clear 'CQ CQ de OA4TT' at RST519. I responded; Jack answered immediately. A couple of attempts to get call signs correct and we were complete. Jack's signal rose from nothing and stayed at RST519 during the contact with a very definite slow rolling QSB. By the time we finished (albeit 30 - 40 seconds later) the signal was declining and for about the next 5 -10 minutes Jack remained at about RST419, then nothing. In hindsight we should have called on SSB for two modes, but I was still buzzing on an absolute adrenaline high.*

Well done Scott. The same morning, a little after when Scott had worked Jack, Jack was also heard/worked by Neil ZL3ADC and Duncan ZL3JT. Then on the 27th December Bob ZL1RS worked Jack OA4TT 10949 km on CW and SSB (5/5).

There has been much discussion about what propagation mode allowed these contacts to be completed as there had been very little solar activity...Is it SSSP (Short-path Summer Solstice Propagation), multipath E's or a combination of E's and high level ionization? Certainly interesting no matter what and since these contacts took place South American FM stations have been heard in ZL and VK.

Another significant event occurred in the early hours of 6th December when Gary VK4ABW worked Mick W1JJ on CW via EME and broke the existing 6 m CW EME world record. Distance for the contact was 15,653 km, breaking the old 1993 record by almost 3,000 km. Congratulations go to Gary who has erected an enormous array (13 element 3 wavelength Yagi with full elevation control). He also has obtained a special ACMA permit to run high power.

Meanwhile from Raratonga in the south Cook Islands Victor E51CG has had a major impact on the VK/ZL summer season. Victor has been heard and worked by stations in all VK states except VK6 on many days during November and December. First contacts occurred into VK2 and 3 on the 20th November and continued regularly into the eastern states and VK5 through November/December. Victor was heard by John VK6JJ on the 18th December but unfortunately a contact was not completed on the 18th December worked VK8MS and VK8RR in Darwin over a distance of approx 7400 km.

Warwick E51WL,on Tongareva (Penrhyn) in the North Cook Islands has been worked from VK/ZL and reports:

*After a quiet period of 6 years and with the solar cycle coming up again, I decided to get back on the air. Spurred along by Bob ZL1RS, with whom I have been friends for many years, I was prompted to have a go at EME on 6 metres. I recently moved QTH by about 100 metres and set up shop in a shipping container used for storage. My 15 metre mast was erected and a rotatable short 5 element Nagara Yagi was fastened.*

*In November, I listened successfully for Lance W7GJ on the moon and tried but unsuccessfully, to work him using JT65A with my IC706MkIIG. We tried on a number of occasions but I did not make it. Just not enough ERP. November 10th saw Bob ZL1RS on the island of Rarotonga. We worked on 6 metres using JT65C, JT6M and FSK441 by direct path and by MS. At times, the direct signal was knocked out by big burns of MS.*

*On 14 Nov, ZLTV Video was received from most of the high power sites at 0519 UTC On 15th Nov., I worked 5W0 with a good solid signal at 58.*

*On 17th worked Bob and Victor E51CG on Rarotonga with very big signals, and we exchanged SSTV pictures using various SSTV modes. Over the next few days, A35A and 5W0KY were worked.*

*21st Nov met up with an old contact from years gone by, Kerry ZL2TPY popped up one morning with a solid 59 and that day, worked ZL2 and 3 stations plus a few VK2s and one VK7 which was a pretty good distance from North Cook.*

*On 22nd, VK4 seemed to be the flavour and I worked a few of them plus a ZL3 and a ZL4.*

*23rd at 0100 thru 0300, I worked 17 VK from areas 2, 3, 4 and 5.*

*It then went quiet for 7 days but I did find a Television transmitter broadcasting from American Samoa on 55 MHz which quite often pinged with MS and often came in by Es very strong. We watched pictures off it one afternoon. The quiet spell broke, I worked ZL3NW one afternoon on 30th Nov, followed by a couple of VK2s.*

*On 4th Dec, worked Paul A35A a couple of times, once off the back and once off the front of his beam! Another 10 days of quiet and again, worked Rod but much later in the day than usual. Also worked ZL1RS on CW that evening.*

*18th Dec, some very fluttery SSB at 0630 UTC, then worked a VK4 and a VK7.*

*20th Dec, Finally heard a beacon, the FK8SIX just came out of the noise about 2130. That day, I worked ZL1RS and he was 20 over 9.*

*21 Dec, a couple of ZL3s and then out of the noise came an old friend, Ron ZL1AMO.*

*Worked a VK2 and VK3 crossmode and SSB when I finally found the microphone!*

*23 Dec, I worked a dozen VK4s between 03—0400 UTC with good signal reports.*

*25th Dec, I heard the ZL3SIX beacon and on 26th the FK8SIX beacon again.*

*To top it all off, before Christmas, our supply boat arrived with component parts for a YU7EF Yagi which Bob ZL1RS built up, tested with 2 EME QSOs from New Zealand then shipped to me broken down. I put it up where the 5 element Nagara was, at 15 metres height. The tower is about the same distance from the lagoon to the East. Great for ground gain.*

*On 02 January 2010, I listened for Lance W7GJ off the moon, and at 0640, I received the confirmation that I made my First EME QSO from North Cook on*

*6 metres. Consequently, that was DXCC # 100 for Lance.*

*On the drawing board, a bit more power for 6 metres with a home brewed amp using recycled (and a few new) parts.*

Thanks for the report Warwick; you have certainly helped to make it an interesting summer in VK/ZL.

Not to be left out of the action Paul A35A (ex A35RK) in Tonga has also been regularly heard and worked from VK/ZL but propagation to Paul has not been as consistent as last season. A particularly good opening was on the 21st December to VK2, 3, 4 and 5 reaching S7 in VK5 and on the same day Paul also worked ZLs, both sides able to be copied in VK3 and 5. Paul also managed to work into VK6 again this season on the 19th and 23rd December, working John VK6JJ, a distance of approx. 7000 km.

Good openings from VK to Singapore occurred during December. On the 13th December Andrew 9V1TT (ex VK8AH) in Singapore worked Gary VK5ZK, Norm VK3DUT, David VK3AUU, Norm VK7AC, Frank VK3OP, Tony VK3CAT and Steve VK3SIX. Then on the 14th December Gary VK4ABW worked Selva 9V1UV and on the 18th December Selva worked several stations in VK3, 4, 5 and VK8GB. Andrew 9V1TT again worked Norm VK7AC on the 1st January.

Willem DU7/PA0HIP in Lapu-Lapu City, Philippines, has been regularly looking for VK contacts and was rewarded with several contacts. On the 10th December Willem worked Norm VK7AC, 13th December Peter VK6KXW and then on the 15th December worked several VK3, 5 and 7 stations. Further contacts followed on the 17th December with several contacts into VK3 and 5 and again on the 18th with signals up to S9 into VK5 and 3. On the 22nd December John VK6JJ worked Willem.

On the 20th December the first of two good openings to West Malaysia with Masa 9M2IDJ working VK6IQ (SSB), VK6ADI (SSB), VK6ZWZ (SSB), VK5ZK (SSB), VK3OT (SSB and CW), VK5PJ (SSB), VK6IA (SSB and CW), VK6YS (SSB), VK6RO (CW), VK6JJ (CW and SSB), VK6KXW (SSB), VK6SIX (SSB), VK6ZIZ (SSB). The second opening occurred on the 23rd December with Masa again working several VK3, 5 and 6 stations but this time Rizal 9W2RZL also worked several VK stations and reported the following SSB contacts; VK3OT, RST 55, 07.38 UTC; VK8MS, RST 55, 07.39 UTC; VK5ZK, RST 55, 07.45 UTC; VK5BC, RST 57, 07.46 UTC; VK5MH, RST 55, 07.49 UTC; VK5ACY, RST 55, 07.50 UTC; VK3ADE, RST 55, 07.52 UTC; VK8RR, RST 57, 07.55 UTC; VK5ZBK, RST 56, 07.58 UTC; VK5NZ, RST 55, 07.59 UTC; VK3LY, RST 55, 08.04 UTC; VK5CC/P, RST 55, 08.05 UTC; VK5ZPS, RST 55, 08.07 UTC; VK6KXW, RST 55, 08.11 UTC.

The FK8 beacon from Noumea has again been regularly heard in all states but again very little activity from FK8 this season. The only reported contacts being on:

4th December - Mike VK2ZQ and Philip VK2HN with FK1TK

29th December – Gerry VK2APG with FK1TK

4th January – Ron VK4DD with FK1TK

On the 25th November there was an opening to Japan with several JA stations being worked by northern VK4s. The opening extended south to VK3 and 5, with JA beacons being heard and Brian VK5BC and Steve VK3SIX working JE6AZU.

Dave VK9WBM has been active from Willis Island and was first worked by Adam VK4CP on the 15th December which was followed a little later with further contacts into VK2, 3 and 4. Dave's first ZL contact was with Peter ZL4LV on the 18th December and, between his work commitments, Dave has regularly worked into the eastern states. On the 7th January Dave was very strong into VK5 and managed several contacts into VK6. Well done Dave and thanks to the northern VK4s who assisted in getting Dave active from Willis Island.

Meanwhile the local VK/ZL summer E's continued on most days but probably not as intense or as regular as the past couple of seasons, perhaps a good indication of this being far fewer opening extending to 2 m. The 4th December was a good day with the band open from ZL to VK5 all day and extending to VK6 late in the afternoon. Brad VK2QO reports good VK6 contacts during December including on the 13th Graham VK6RO 519, 16th Jack VK6KDX 52, VK6IQ 41, Laurie VK6GL 52, Phil VK6ZKO 52, John VK6JJ 53, Peter VK6KXW 55, 17th Alan VK6ZWZ 55, Laurie VK6GL 53, John VK6JJ 55, Jack VK6KDX 53, Graham VK6RO 53, Igor VK6ZFG 53, Noel VK6BJ 57, and 22nd Ken VK6AKT 55. John VK4FNQ also reports good VK6 contacts on the 18th December reporting contacts with VK6s JR, BJ, GL and ZSB. The 17th December was an exceptional day with the band open from most states to all states and ZL and including a good short skip opening from VK3 to VK5.

Please send any 6 m information to Brian VK5BC at briancleland@bigpond.com

ar


HAMFEST Sale

Sunday 28th February 2010
10am to 2pm
Healesville Memorial Hall
Maroondah Highway Healesville

For booking of tables and further information:

Gavin VK3GH on 5968 8482
Laurie VK3LD on 0414 759 812
or email tables@yarravalley.ar.org.au

www.yarravalley.ar.org.au

# ALARA

Aysha Venugopal VK5FASH

**A very Happy New Year** to all and hope everyone had a safe and wonderful Christmas. Jean Fisher VK3VIP, the VK3 representative for ALARA, tells us they have been busy with the holiday season but took some time off to celebrate Christmas with a lunch at Egusto at Southbank.

(From left to right) ALARA members Pam VK4PTO, Catherine VK4VCH and Sue VK4ST at the Hamfest in Broadbeach, Queensland.

Pam VK4PTO, the VK4 State Representative, took the ALARA information table to the Gold Coast Amateur Radio Society Hamfest at Broadbeach. This not only attracted YLs who were interested in finding out more about ALARA, but also was a place for the YLs to gather.

ALARA YLs meet at the Adelaide Hills Amateur Radio Society

Closer home, in Adelaide, the ALARA members of the Adelaide Hills Amateur Radio Society got together for the Christmas luncheon with Joy VK5YJ and her daughter Joyanne.

**After the festive season, it is a good time to get those contesting hats, or should I say, keys, on with the summer VHF-UHF Field Day for CW and Phone scheduled for January 16-17 of 2010. This is one of the popular contests that will kick off the New Year.**

ALARA YLs from Victoria meet for lunch at Egusto on Southbank, Melbourne: (L to R back row) Maree VK3FSAT, Jean VK3VIP, Margaret VK3FMAB, Pat VK3OZ, Michele VK3FEAT, Jenny VK5ANW/3 Elaine VK3EQY. (L to R front row) Pam VK3NK, Marg Loft, Michi VK3FMGE, Susan VK3LOV.

## Silent Keys make 2009 end a sad one for VK5

**(Christine Taylor VK5CTY reports)**

**Anne VK5FANN** became a silent key in early December. She had been fighting cancer for quite a time and had gained our admiration in so doing. Anne has only been a member of ALARA for a couple of years, since she passed her exams but she had attended a number of our monthly luncheons. She was also part of the Scout Radio Activities Group along with her OM Mike VK5AMK.

Anne was born in South Africa and lived there until she was in her early teens. She and her brother had some difficulties adapting to Australian life but they became true blue in time. Anne was a nurse by profession and a keen crafts woman.

After she knew she had cancer she was determined to learn how to do bobbin lace and very proudly showed off her bookmark at one of our luncheons. Some of us who had started to learn bobbin lace and fallen by the wayside were suitably ashamed of ourselves.

At her funeral service, Jean VK5TSX and Jeanne VK5JQ represented ALARA and an ALARA scarf was placed on her casket.

**Birgitta SM0FIB** became a silent key in September. She will be remembered by some of the YLs in ALARA and WARO from when she attended the YL International in 2000 in Hamilton.

It was the only international Birgitta attended but she had been known within the amateur community for some years. In Hamilton she accepted sponsorship with me (Christine VK5CTY) and with Lynn ZL1PQ.

With both of us she kept up a regular correspondence (by email and by snail mail) and we exchanged calendars at Christmas.

She was active and well known in the Scandinavian amateur fraternity. A few years ago Birgitta suffered a series of strokes that reduced her mobility but not her spirit. She will be missed.

ar

# An arena of wonder – QSP

Peter Wolfenden VK3RV

100 YEARS

## Foreword

**Over several issues of *AR* this year, we will be presenting an account of the history of the Wireless Institute of Australia (WIA).**

It is not meant to be a complete synopsis of the life of the WIA, rather it is a bringing together of aspects of our past.

In preparing this document, placing information into chronological order was pre-eminent so that a reasoned perspective could be obtained as to how situations relating to amateur radio arose and actions occurred. Much effort has been put into confirming dates and referencing detail so that in the future, others may be able to further flesh out the subject and build on this work.

There were many, many more people who were deeply involved with the development of organised amateur radio in this country. Their non-inclusion in this history in no-way detracts from their contribution.

A comment for the new-comer: The term "Wireless" grew from the era of the original "wired" telegraphy system. As soon as it was possible to exchange messages without using the inter-connecting telegraph wires, "WIRELESS" was born – initially as "Wireless Telegraphy".

**History makes us who we are today. History guides us to not repeat mistakes!**

## 1. Background

**The Wireless Institute of Australia** grew from autonomous State groups. The name: "*Wireless Institute of Australia*", was not the original name used in all Australian States; however, they all finally morphed into the national organisation we know today.

Within the groups of experimenters in most States were members who sensed the commercial possibilities of the "new science" and naturally, differences arose with conflicting interests. Some members felt that their local society should become the backbone of a fledgling professional organisation. Others were interested in wireless solely as private experimenters - a hobby or part-time interest.

In New South Wales, and to a lesser extent in other States, some members who were professionally employed - they were paid for their expertise and labour - were responsible for focusing the organisation towards one catering to the needs of a new industry in a field which was struggling to establish itself.

**The Institution of Radio Engineers** (the forerunner of the IREE) grew from the Wireless Institute during this period. It was registered in August 1924 at a time of momentous change in the infant broadcasting service (and allied pursuits), and in 1932, following a period of inconvenience and indeed confusion for many amateur experimenters, the "professional members" took over the Wireless Institute of Australia (NSW). There were a number of high-powered people involved with this move, and even today some still say that it was a very difficult and awkward situation for a time, leaving a divided fellowship in its wake (1, 2, 3).

Much of the instability was due to the admission of voting "non-transmitting experimenters" to Institute membership and issues surrounding "non-electricians" dealing with 240 V AC mains power. This culminated in the licensed transmitting experimenters losing control of their own organisation!

An insight to the problem can be gleaned from the October 1931 ***WIA Bulletin of West Australia.***, which reported: "*Since the Council [WA] decided to restrict as far as possible the admittance of associates to those actively interested in amateur radio, and to repress the pure broadcast listener, those offering themselves for admittance to the Institute have disclosed a keener interest in the A.O.C.P.*" (AOCP: Amateur Operator's Certificate of Proficiency, gained by formal examination).

Perhaps this was one good solution to part of the problem! (4)

Thankfully the turmoil in NSW finally resolved itself to the relief of all concerned, allowing the organisation of wireless experimenters to re-form nationally as the Wireless Institute of Australia and the Institution of Radio Engineers became Australia's professional radio organisation. It should be added that of course, some individuals were active members of both organisations (1, 2, 3).

## 2. The earliest Days

Wired Telegraphy was global by the time Marconi demonstrated his wireless system in 1895. Indeed all Australian colonies, including Tasmania, had been cable-linked by 1880.

But it was not until Federation in 1901 that the individual Post and Telegraph Departments of the six colonies were united under the Federal Postmaster General's Department (5). Before 1905, the radio spectrum in Australia was effectively under the control of the Royal Navy (British), as it was responsible for the defence of Australia (6).

A number of "wireless" demonstrations were given to interested parties in most Australian States during 1897/1900. Professor Threfall at Sydney University repeated Hertz's demonstrations as early as 1888 and Professor William Bragg gave the first recorded public demonstration of "*Telegraphy without wires*" at the University of Adelaide during September 1897 (2, 7, 8). Professor Bragg had a very competent technician helping him with the practical aspects of his lectures, A.L. Rogers of the University's workshops, who noted down that he made "*Marconi apparatus*" for Bragg during August 1897. Rogers was associated with all of Bragg's work and remained with the University until his death in 1939 (2).

Following his success using Wireless Telegraphy to communicate between

Henley Beach and the Adelaide Observatory, about 8 km, Bragg advertised a series of three *Extension Lectures on Wireless Telegraphy* in the ***Adelaide Advertiser*** of 13th September 1899.

The courses were well attended and covered *"a brief account of the Theory of the Electric Wave and the work of Maxwell, Hertz, Lodge, Preece, Marconi and others." Adelaide Advertiser, September 13th 1899.*

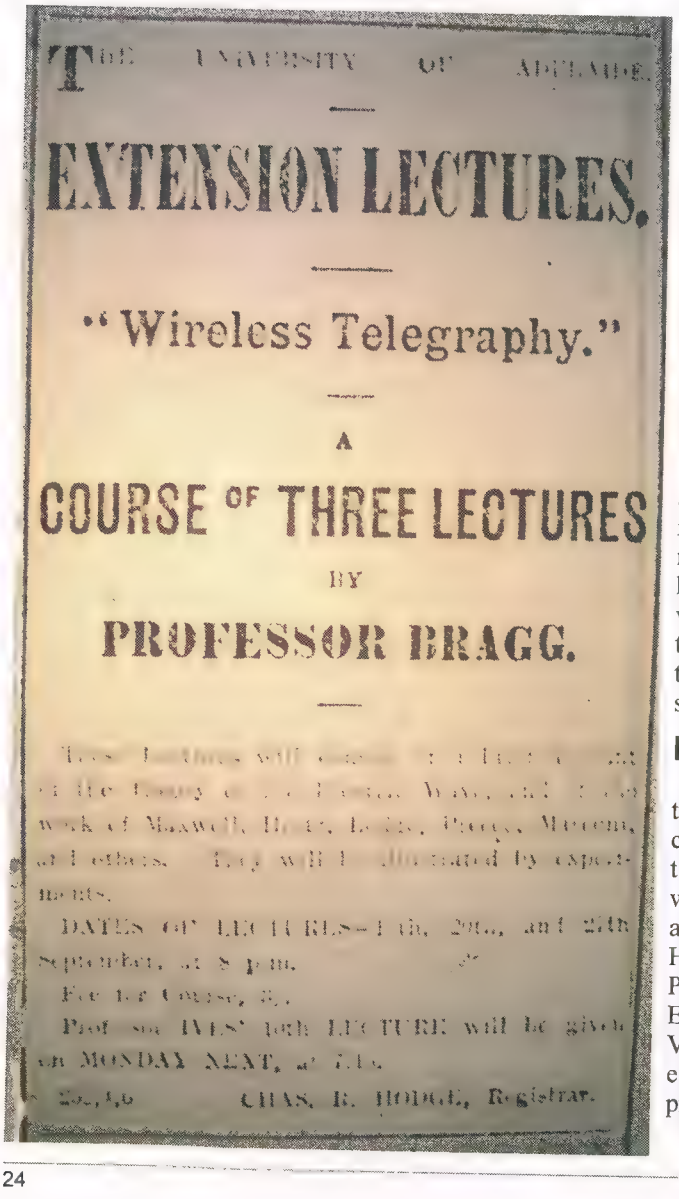
The lecture series concluded with some practical demonstrations including a transmission from the Observatory on West Terrace and one within the lecture room. It appears that wireless telegraphy experimentation was quite advanced in South Australia at this time (2, 9).

The Federation of Australian States in 1901 brought about a new Secretary of the Post Office who *"looked with disfavour on everything that was not revenue producing and for the time being wireless was doomed"* (10). Presumably, the existing wired telegraphic system was successfully producing revenue, doing its job technically and most importantly, was fully under government control. However, seven years later it was revealed that a deficit of £3 million (today's value $350 million) had been racked up by the new organisation since Federation! (5)

**Presumably the existing wired telegraphic system was successfully producing revenue, .....seven years later it was revealed that a deficit of £3 million (today's value $350 million) had been racked up...**

Unfortunately, stalling on the part of authority with wireless telegraphy appears to have been a repeating theme throughout the history of its development in Australia and this coupled with a deal of hostility toward experimenters, slowed progress significantly. Initial grappling with the new science would certainly have been difficult for the regulators, and even more trying for them once the entrepreneurial element came on the scene!

In the early stages, doubt also existed as to the commercial usefulness of the medium, largely due to the maximum reliable signalling speed of only about 10 words per minute. This could not compete with the high speeds attainable with "machine telegraphy" used in the cabled or wired systems (2).



THE UNIVERSITY OF ADELAIDE.

EXTENSION LECTURES.

"Wireless Telegraphy."

A

COURSE OF THREE LECTURES

BY

PROFESSOR BRAGG.

[illegible]

work of Maxwell, Hertz, Lodge, Preece, Marconi, and others. They will be illustrated by experiments.

DATES OF LECTURES—Feb. 20th, and 27th September, at 8 p.m.

Fee for Course, 5/.

Professor IVES' 10th LECTURE will be given on MONDAY NEXT, at 7.15.

[illegible] CHAS. R. HODGE, Registrar.

## Back to 1901

Surprisingly, the Federation celebrations during that year gave wireless telegraphy an unexpected boost! H.W. Jenvey, Chief Postal Electrical Engineer for Victoria, had been experimenting privately from 1899.

He adopted the call sign "RB" reflecting the location of his station at Red Bluff. At his own suggestion and with "governmental blessing", on 6th May 1901 "RB" officially communicated with the escort ship HMS St. George, which was in Victorian waters accompanying the Duke of York, the future King. This was the first ship-to-shore wireless communication in the Antipodes and to the amazement of the Royal Navy's officer, Jenvey was using "home made" equipment! Arguably the communication acted as a two pronged catalyst for "wireless": first, it raised interest in the worth of the new communications medium - the newspapers featured Jenvey's work, and second, it contributed to the debate about establishing a coastal wireless telegraphy network (10, 11, 12, 14).

On leaving Port Philip Bay, HMS St.George and Jenvey remained in communication for some 55 km when the exchange of messages abruptly stopped. Later it was learnt that the kite aerials on the St. George had been swept away in a storm it was encountering 15 km off Cape Schanck, en route to Sydney (10).

Although Walter Jenvey was employed by the Post Office, almost all of his wireless work was conducted after hours and was not considered to be part of his

*Walter Jenvey*

*(Listener In, 19 June 1926)*

employment - it was of an amateur or experimental nature (13, 16).

In Hobart during July 1901, W. Hallam (later XZH) and "Pop" Medhurst XFM (before official call signs, later XZD) with others, also contacted HMS St. George when it was in Tasmanian waters (7).

In Australia, there were other private experimenters at that time; some sought official approval for their work; others did not. There were neither official call signs nor regulations with which to contend; only the odd disgruntled Navy ship which may have been interfered with by an over-zealous experimenter!

We must also remember that transmitting and receiving equipment was technically extremely simple by today's standards and that initially, tuning was largely, if not entirely, dictated by the length of the aerial (antenna)! Marconi's 1898 "jigger", or oscillation transformer, a form of tuning device fitted between the aerial and coherer detector, helped to some extent with reception, if you had one installed! The same principles were also applied to some transmitters. However, all stations were embryonic in design and left much to be desired! (15)

**This was the first ship-to-shore wireless communication in the Antipodes and to the amazement of the Royal Navy's officer, Jenvey was using "home made" equipment!**

## 3. Australia begins to recognise the potential of Wireless Telegraphy

The original Australian Wireless Telegraphy Act (1905) vested power in the Post Master General, and the Chief Electrical Engineer for the Post Office was charged with administering it. There was an exemption: *"Ships of War – This act shall not apply to ships belonging to the King's Navy."*

The Act also made provision for land based Experimental Stations, a classification which enabled the establishment of private (amateur) stations. Unauthorised persons caught using wireless could be fined £500 ($6100 today!) with or without five years hard labour and forfeiture of their equipment! (17, 23)

The Marconi Company was keen to establish itself in Australia and in June 1906 it obtained the first "land station" licence under the 1905 Act, for stations in Devonport in Tasmania and Queenscliff in Victoria. These were used during July to demonstrate the Marconi equipment; however the government declined to purchase the stations at the end of the demonstration trials, perhaps still unsure of the potential of wireless! (2)

(See Photo Marconi Company brochure over page)

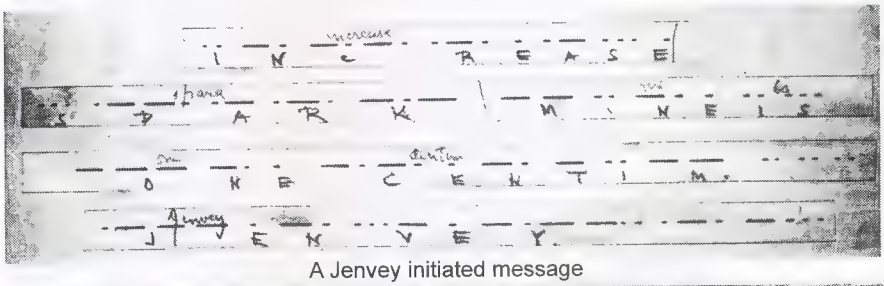
Although the Royal Australian Navy wanted to establish a coastal wireless network, the Navy itself was still in an embryonic state in 1906. Australia was reliant on the Imperial Navy until October 1913 (6).

There also appears to have been some hesitancy on the part of the Government to commit funds. But in October 1909, tenders were called for the construction of stations in Sydney and Perth. Australasian Wireless Co. offered and supplied Telefunken (German) 25 kW equipment at about a quarter of the price tendered by the Marconi Co. which subsequently initiated a rather complex string of events including legal actions. Indeed the whole wireless field was beset by patent squabbles for many years! (2, 23, 25)

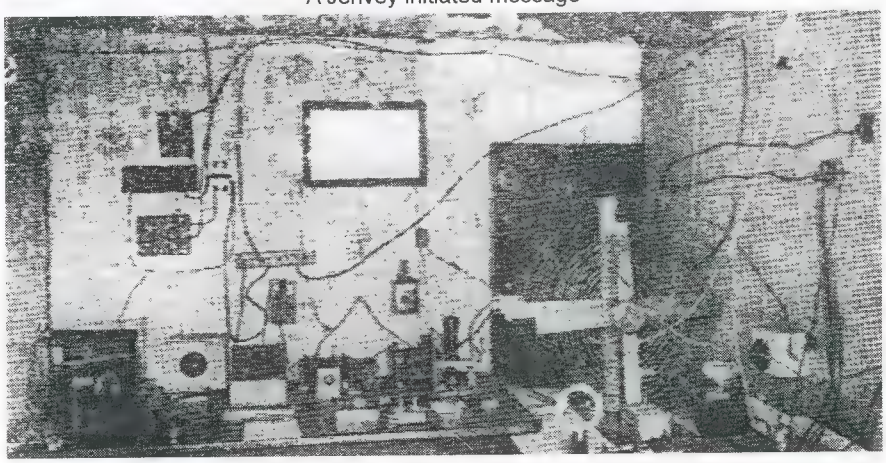
The Australasian Wireless Company was a "cloak" or "front" for German interests in Australia, the promoter being Staerker & Fischer of Sydney which persuaded a number of influential local businessmen to become involved in establishing a wireless company for the purpose of positioning themselves in the potential Australian market.

The Company was registered in December 1909 and for the next 20 years or so there appears to have been much exploitation of the Commonwealth by a series of doubtful actions by some wireless companies. The booklet ***The Story of the Commonwealth Wireless Service***, published in 1936, is very

"Pop" Medhurst 7AH in 1927. (REAST and VK7RO)



A Jenvey initiated message



Jenvey's "wireless" shack. Point Ormond Victoria.*(Listener In, June 1926)*

revealing in this regard. Surprisingly, many big companies, including household names, had dubious involvement, one way or another, right up to the final bedding down of the broadcasting service in the late 1920s (23).

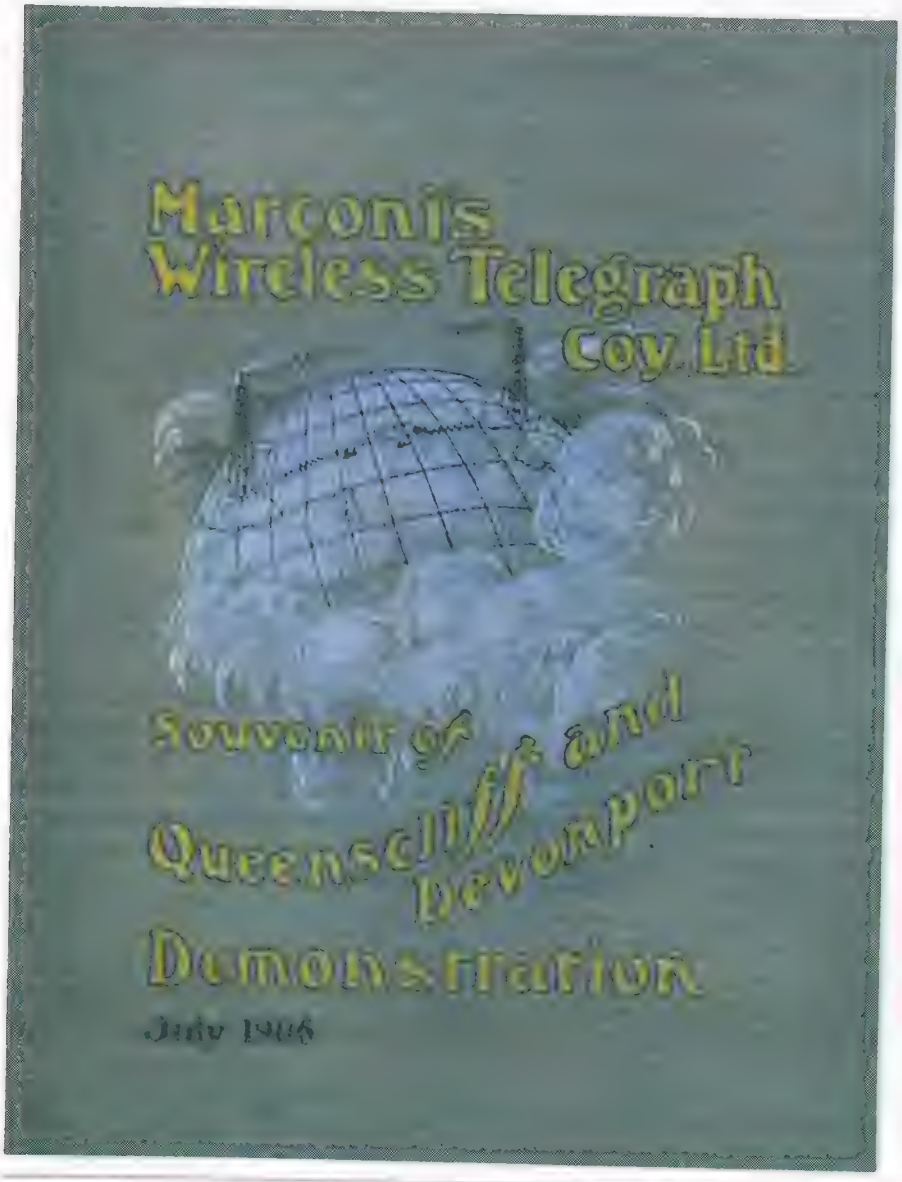
Another insight to the cut-throat environment during the early days of wireless involving one of the biggest companies is revealed in Ryder and Fink's book ***Engineers and Electrons:***

*"The Marconi position had been attained by manipulation of patent ownership and exploitation of the Lodge tuning patent, an inescapable component of station design. The practice was to sue for infringement, and after the case was won by Marconi, to follow with a bid for the depreciated assets of the defeated defendant, patents as well as stations"* (25).

Members of Parliament also found themselves caught up in the antics of those who thought that they were the "owners" of the spectrum and the technology, not only here in Australia but also in England where a number of senior politicians *were* caught out with financial interests in the American Marconi Company (26).

In hindsight, the true amateur experimenter may have been amongst the select few who, over those years, were not attempting to take advantage of their knowledge for obtaining ill gotten gains from the public purse and who could rightly hold their head high. Further, it could be argued that the altruistic attitude of amateurs has survived right up to today in the many ways they provide public service, whether it be in education, emergencies, technical services for the mushrooming community radio service, etc, etc. But we must return to the chronology of this history.

By the end of 1910, besides a few Government experimental stations and the odd specialised station for communicating with shipping such as the Australasian Wireless Company's station in Sydney or Father Shaw's station attached to his wireless factory at Randwick, (the organisation which finally supplied the Australian designed Balsillie coastal radio stations after the first two Telefunken installations), there were only about 10 **authorised experimental** stations in Australia. But interest *was* growing (18).




One of those ten licences issued was to Charles P. Bartholomew of Mosman NSW. He later operated under the call sign of XBM and became a director of AWA. Victor Nightingall of Melbourne, later XKK, was also listed; however, it also appears that not all of the licences were current. The ***Melbourne Herald*** of March 14th 1910 details licences issued since the implementation of the 1905 Wireless Telegraphy Act (7,11,18,19).

Another of the earliest licensed experimenters was JHA Pike of Arncliffe, NSW. His name was included in the first listing of experimental licences issued under the 1905 Act. Later he operated as XDY. The ***Evening News*** of March 23rd 1910 reported him communicating with the flag ship ***HMS Powerful*** off the east coast of New Zealand, a distance of about 1600 miles (2500 km)!

Henry Sutton of Melbourne also held one of those first official licences. A friend of Tesla, he spent a lot of time experimenting with "crystal" detectors. Sutton constructed a *"new, reliable and accurate wireless system"*, which he claimed required only one-sixth of the power of the Marconi system, possibly due to the sensitivity of the receiver.

He demonstrated this system to the Defence Department at the Victoria Barracks in July 1908. Newspaper reports suggested that the Government had intentions of installing the "*new invention*" at several selected locations in the Commonwealth; perhaps at the first group of coastal stations for which tenders were about to be called (20, 21).

At this time, the only professionals involved in this new field were mainly electrical engineers and physicists who found themselves working with wireless for Government Departments – the Military, Navy or PMG, all tightly controlled. A few were employed by the fledging equipment manufacturers. Almost everyone fitted into the "experimenters" category.

There were no formal professional

courses in Australia for Radio Engineers until the 1930s. Prior to this, professional radio training was largely learnt on the job, or through training sessions conducted by equipment manufacturers or their representative such as the **Marconi School of Wireless.**

**Stotts Technical Correspondence College** also advertised Wireless Courses for Amateurs and Engineer-Operators in ***The Australasian Wireless Review*** during 1923 (11, 1, 22).

Of interest is a station installed in Collins House Melbourne during 1915 by members of the Royal Australian Naval Brigade. (below) This was used for monitoring the German fleet in the Pacific Ocean and later training operators for the Mercantile Marine supporting servicemen in Europe during the Great War (24). Collins House also became the Headquarters for the Controller of Wireless.

## References:


(1) Tyler, HM, **The beginning of IREE – How it all came about**, *Amateur Radio*, WIA, January 1985.

(2) Ross, JF, **A History of Radio in South Australia**, Plympton Park S.A., 1978.

(3) Byrne, MW, **Background to IREE**, *Monitor*, IREE, March 1978, p 3.

(4) **Editorial**, *WIA Bulletin - WA*, Wireless Institute of Australia, Perth, October 1931.

(5) Murray, J, **Calling the world, 100 years of Alcatel in Australia,** ISBN 1 875 359 22 2, 1999, p 13.

(6) **Royal Australian Navy,** http://www.navy.gov.au/History September 2008.

(7) **WIA Book Volume 1,** Wireless Institute of Australia, Melbourne, 1982, various pages from p 15.

(8) **Wireless information wanted. Old records sought,** Letter to Editor, *Electrical Weekly*, March 3rd 1954.

(9) **Extension Lectures "Wireless Telegraphy"**, Advertisement, *Adelaide Advertiser*, September 13th 1899, p 2.

(10) **Where is Queenscliff?,** *The Listener In*, Melbourne, June 19th 1926, p 14.

(11) **The Radio Revolution – Part 1: The Pioneers**, *OTC Information Broadsheet #3.* c1977.

(12) **Wireless Telegraphy- Proposed Welcome**, *Argus Newspaper*, Melbourne, April 11th 1901, p 5.

(13) Jenvey, B, OA3AY/VK2ZO, **RAOTC Address,** Voice recording, *WIA Sound Archive*, Melbourne, 1978.

(14) **Wireless Telegraphy – Mr. Jenvey's Experiments**, *Advertiser Newspaper*, Adelaide, January 23rd 1902, p 7.

(15 **Radio Communication, History and Development,** Science Museum Handbook, London, 1934, p 20.

(16) **Wireless Telegraphy- Experiments in Melbourne**, *Argus Newspaper*, Melbourne, April 3rd 1901.

(17) **The Year Book of Wireless Telegraphy and Telephony,** Marconi Press Agency Ltd., 1913, p118.

(18) **Wireless Experiments – Licences**, Herald Newspaper, Melbourne, March 14th 1910.

(19) **Nightingall, V, XKK,** File, *WIA Archive*, Melbourne.

(20) **Australian Wireless, Important New Invention**, *Argus Newspaper*, Melbourne, July 28th 1908, p 4.

(21) **Wireless Telegraphy, The New Development**, *Argus Newspaper*, Melbourne, July 30th 1908, p 5.

(22) **Stotts Advertisement**, *Australasian Wireless Review Magazine*, Sydney, May 1923, p 6.

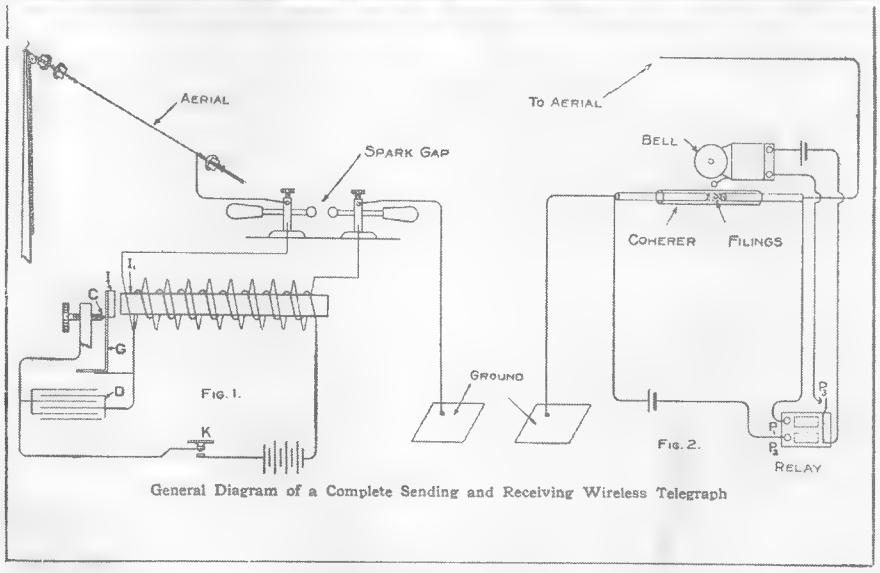
(23) Amos, DJ, **The Story of the Commonwealth Wireless Service,** Adelaide, EJ McAlister & Co., 1936.

(24) **An Aerial with History,** *Popular Radio Weekly Magazine*, Melbourne, May 27th 1925, p5 & p14.

(25) Ryder, J D; Fink, D G, **Engineers and Electrons**, ISBN 0 87942 172 X, IEEE, New York, 1984, p 59.

(26) **Marconi Debate, House of Commons Crowded,** *Argus Newspaper*, Melbourne, June 20th 1913, p 4.


An Aerial With An History




An early circuit diagram

## Foundation Corner Five

# Refurbishing aluminium antennas

**Geoff Emery VK4ZPP and Ross Pittard VK3CE**
**vk3ce@amateurradio.com.au**

*This month I hand the reins over to Geoff EmeryVK4ZPP (vk4zpp@wia.org.au) who sent me an interesting article on antenna restoration. Thanks Geoff for your efforts and please everyone keep the articles and feedback coming in.*

Whether passed on by another amateur, recovered from the recycling shop, grabbed as a bargain at a swap meet or just needing to do maintenance, the average amateur often has to bring 'worse for wear' sky hooks up to scratch.

Two very detrimental factors to aluminium are the results of electrolysis, either caused by poor choice of fittings or the chemistry of the air, containing salt near the coast or industrial/automotive particulates, which when mixed with the normal moisture content, eats away at the shiny aluminium. If allowed to progress, the mechanical integrity of the structure is impaired beyond simple repair.

The first procedure is to inspect the antenna. Look for the dreaded white oxide powder around fittings and joints. This indicates the areas that need particular attention.

**a lanoline based penetrant which seems more effective than older preparations such as *WD40* and *CRC-556*.**

Next is to remove the fitting hardware which may be seized beyond recovery. This is particularly the case where steel plated with cadmium or zinc/galvanised fittings have been used. Before struggling with spanners and screwdrivers, I spray the area with a lanoline based penetrant which seems more effective than older preparations such as *WD40* and *CRC-556*.

If the items release, you have had a win. If not, then you have to find a method of removal. Sometimes, heating the area with a blow torch may cause sufficient expansion for the frozen joint to be loosened. Clamps may be cut free using a cutting wheel on a high speed grinding tool. Before cutting into the underlying aluminium, try levering with a small bladed screwdriver. Hopefully you will be able to break the metal along the cut without bruising or deformation of the aluminium.

Even an old fashioned hacksaw with a fine toothed blade might be suitable in making the cut.

Metal threads which are immoveable because of corrosion can be a great frustration, made more difficult if they pass through plastic insulators, as trying to grind the heads off will melt the plastic.

One method I have found helpful is to drill though the head of the metal thread with a sharp drill slightly smaller in diameter than the shank. The hole only needs to be slightly deeper than the depth of the head. Then use a drill slightly smaller than the diameter of the head to remove the head. This method generates less heat from friction than most other methods and is particularly easy to use on posidrive type fittings as the pilot hole is automatically centred.

Having disassembled the antenna, it is necessary to further inspect its condition and repair and/or treat areas that are damaged.

Areas of oxidation need to be removed by abrasion. This can generally be done using a kitchen plastic scouring pad, if it is superficial. The advantage of using the plastic pad is that it does not impregnate the surfaces with metal particles of dissimilar metal which will only cause further electrolysis later on.

If the pitting is deep, it may be necessary to remove the damaged area and insert a suitable sleeve just to restore mechanical strength. Pitted areas can sometimes be cleaned and an internal sleeve of PVC or similar used but remember to ensure balance if the element or boom section is undamaged on the opposite end.

Remember that crystallisation occurs in aluminium subjected to constant vibration, a lesson learned from the aircraft industry but obvious in aluminium antennas mounted in windy sites.

VK3CE

If the metal has to be cut, it must be joined to be electrically continuous and particularly at VHF and UHF, the outside diameter maintained to keep the tuning characteristics within specification.

For this reason, internal sleeving is usually preferable with use of aluminium pop rivets which have aluminium mandrels. Some bargain rivets use steel mandrels and in the right conditions you will have a loose fastening, a non-conductive joint and a noisy antenna.

Once the various components have been cleaned and mended they are ready for re-assembly. I replace the hardware with stainless steel and use nylon insert nuts which remain tight without deforming the tubing.

Worm drive stainless steel hose clamps are used but not the ones with plain steel worm drives. Boom clamps using U-bolts are expensive items and I usually relent and wire brush the threads to remove any rust, lightly spray them with aluminium based paint and replace the washers and nuts with bright steel ones which are then also painted. If possible, after assembly, a further coat of paint is applied to keep the moisture from these components.

Remember that UV light causes many wire sheaths to degrade and so any pigtails, whether sheathed or not, benefit from having heat shrink tubing applied. I believe that the electrical transmission industry has found lanoline a versatile anti-galling product as well as a jointing compound for copper to aluminium. Theoretically lanoline is non-conductive but applied thinly, it appears to work well both at AC and RF for these purposes.

If you do not have the expensive jointing compound available from your electrical trade supplier, I have

found using the lanoline based sprays work well as a jointing compound that restricts the fast electrolysis of dissimilar metals.

All swaged joints should be cleaned to bright metal on the mating surfaces, remembering the RF skin effect. A light smear of lanoline white grease or spray can be applied before mating and clamping.

On the exterior, if there are concerns of moisture ingress, clean the surface of any contaminants and apply neutral cure silicone sealant or cover with butyl rubber self amalgamating tape. Do not be tempted to use hot melt glue on external applications as it deteriorates rapidly from UV radiation.

Although I have read warnings about painting antennas, I have found that, particularly where there is evidence of pitting or scratching on the surface, a light spray of aluminium based paint provides added protection against this damage extending.

The point is that you are not painting a rusty hulk and brushing paint on thickly but lightly coating the surfaces and paint runs will not occur to cause insulation of parts of your antenna.

It is probably wise to have a progressive program of inspection and maintenance of all antenna systems. Birds find our structures good perches, wind can bend things and moisture which is trapped can all cause damage.

Every couple of years seems to work for me.

Look after your antennas and they will serve you well and long.

## Silent key

# Clem Maloof VK2AMA – SK

Clem Maloof VK2AMA passed away on 9 November 2009 at 77 years of age.

He was a devoted medical doctor and anaesthetic specialist, had eight children and many grandchildren.

From 1950 to the present Clem was very active in amateur radio. He passed his licence exam first time and at an early age. He was a true academic, a hands-on home brewer. He bought war surplus gear from Prices Radio in Angel Place, Sydney when in his teens and modified it in the beginning. Most of his equipment was home brew.

He was always interested in electronics, always supported the WIA with an eager passion and always listened to the Sunday morning broadcasts. He had his two metre repeater gear always on and monitoring. He won many field day awards with his mobile equipment. He also had articles published in *Amateur Radio* magazine. His 33 metre windmill tower at Bexley has been a landmark for many years with its still functional three element beam and rotator.

He was great friends with Mr. Corbin and Pierce Healy. He visited amateurs around the world, including New Guinea, USA, the Middle East and the British Isles.

Amateur radio was always on his mind. He followed the establishment of Dural with Dr. Morvan Dan with great enthusiasm, and also Atchison Street.

Clem is survived by his wife Rabina, children and grandchildren.

Submitted by his brother Peter Maloof VK2KPM.

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CENTRAL COAST AMATEUR RADIO CLUB INC

# CENTENARY FIELD DAY

## Sunday 28th February 2010

## WYONG RACECOURSE

**Admission Fees** Adult $10. Free admission for under 17

**Gates Open** 6:30 am The Bistro will open at 8:00 am for early arrivals.

## ATTRACTIONS

**TRADERS** Most major suppliers selling amateur radio and electronic equipment.

**EXHIBITORS** Representing amateur radio groups, clubs and emergency organisations*

**FLEA MARKET** Boot sales, Wheel and deal from 6.30 am.

**OTHER** Embroiderers' Guild NSW, WIRES and Central Coast Potters Society displays.

**RAFFLES** **SEMINARS** **FREE TEA & COFFEE**

**Listen for VK2WFD on HF** — QSL certificates awarded.
Listen to VHF local repeater for directions and information.

## DINNER

The Centenary Dinner will be held at
**Wyong Bowling Club on Saturday 27 February 2010**
commencing at 6.00 pm, in association with ARNSW
Two course hot buffet for $25.00, drinks at bar prices.
**Dinner bookings essential.** Contact Brian Kelly of ARNSW - phone 0418 659 043 to book.
**Further Field Day information and regular updates on**

**www. ccarc.org.au**
**e-mail: ccarc@ccarc.org.au**

***The Trader / Exhibitor area will be closed to the public until 9:00 am.**

# News from VK5

## South Coast Amateur Radio Club

**Stef Daniels VK5HSX**

### News on SCARC Awards

After the club having received several inquiries regarding what is happening with the Southern Vales Award, the Committee began an evaluation and determination of what current awards are issued by the club to its members, as well as the amateur community.

The club determined that several awards would be available for the club members only, with the Southern Vales Award open to the broader amateur radio community in 2010.

The main reason for the changes to our awards was to provide a format of recognition for efforts by members and operators on behalf of the club. Several awards which were already operational, however, they were not issued due to criteria and knowledge of the requirements. We have also included a number of new awards to help encourage operation and advancement for members to perhaps strive to achieve.

### Southern Vales Award

Issued to non-members who contact the VK5ARC Club station and a certain number of members within a minimum period. The Award will be made upon receipt of completed Application including details of the required fulfilled contacts made in a 12 month Period.

Full details can be found at the club website: http://www.scarc.org.au/

Email: secretary@scarc.org.au **ar**

**Secretaries please note**

**Improve your club's image**

**If you send a high resolution image of your club logo to the Secetary, Publications Committee, Ernie VK3FM, we will endeavour to print it with your notes and event advertisements. Send to**

**hamads@wia.org.au**

# Poeppel Corner 2009

Daniel Clift VK2DC

**Where is Poeppel Corner, and who would like to go there? The question was asked at a general meeting of the Blue Mountains Amateur Radio Club last year. With an enthusiastic response from some 24 members, the stage was set! PC09 was the brainchild of Gunter VK2JAP, and took around 12 months to organize.**

When the idea of doing an off road excursion to Poeppel Corner was initially put to the members of the Blue Mountains Amateur Radio Club last year, it generated considerable interest.

Initially some 24 members indicated they would like to come along and be part of the fun. It was intended to be simply a run to Poeppel Corner, so it was an opportunity to take in the other two corners as well: Haddon Corner, and Cameron Corner, and playing radio all the way.

Natural attrition finally brought the numbers down to just eleven members who were to eventually participate.

The trek started at 0700 on Saturday 29 August 2009 after members had participated in an early breakfast, along with the obligatory heart starter, at McDonalds. With a champagne farewell from Joe VK2VAT, the DXpedition got under way. The day was overcast and light rain was encountered along the Bells Line of Road to Lithgow. Caution had to be exercised as the road was quite slippery. We encountered two accidents, but all parties involved were quite okay.

Inter-vehicle communication was pre determined to be on 434.100 MHz and proved to be successful throughout the entire excursion, with a backup of 145.500 MHz. We were also active during the trip on 20, 40 and 80 metres, with both mobile and portable operation. All vehicles had HF antennas, and they worked quite well, with each vehicle taking turns to operate VK2HZ/mobile. VK2HZ is the call sign of the Blue Mountains Amateur Radio Club Inc.

The first day was uneventful, and took us through Bathurst, Blayney, Cowra, Grenfell and West Wyalong. We logged into the Traveller's Net on 20 metres to give us some security.

West Wyalong was the first stop for lunch on day one, and for all parties to catch up, as some had taken a slightly different route, and while we waited, I took the opportunity to visit the grave of both my mother and my grandfather. We also met up with Marty, another bike rider from Dubbo, who was joining us for the experience, thus swelling our group to twelve. Marty is a candidate for a Foundation Licence in the near future. We then moved on from West Wyalong to Rankin Springs, then to Hillston, Rotea and to Willandra National Park, which was our first camp.

Willandra is a very large cattle property and also part of the Willandra National Park, situated some 160 km north of Hay in western NSW, and about 20 km from the western NSW town of Willandra. Willandra National Park is about 20,000 hectares in size and was once part of the 'Big Willandra Station,' which used to run sheep.

It now has excellent accommodation facilities, but we decided to rough it! After setting up camp, a dipole antenna on 80 metres was quickly erected to keep in touch with home and, of course, to operate from a portable site.

It was great to hear so many stations that had heard about PC09 and wanted to be part of the action. Kevin VK2FTTP had made a 'squid pole' vertical for 40 metres which worked a treat. This antenna was mounted on a Pajero, owned by Richard VK2LET.

Next day saw an early start to our next planned campsite, which was some 900 km away at Arkaroola. The intended route would have taken us from Willandra to Mossgeil, then Ivanhoe, Sayers Lake, Menindee, then Broken Hill and on to Arkaroola.

All this was not to be, when misfortune struck Peter VK2US, some 20 km from Menindee; his vehicle managed to destroy a front wheel bearing along with associated stub axle. This meant a flat top tow from south of Menindee to Broken Hill for repairs.

Gunter VK2JAP rode into Menindee

Photo 1: At the corner.

Back Row: Werner VK2FWMS, Gunter VK2JAP, Marty, John VK2QN, Daniel VK2DC, Richard VK2LET.

Front Row: Chuck VK2SS, Kevin VK2FTTP and Ross VK2VVV.

Missing are Erik VK2MAN, Peter VK2US, and Tony VK2KAY.

to a service station in a bid to get some assistance. They kindly put him in touch with a towing service at Broken Hill. It was to be some time before we had any news, so Ross VK2VVV put on an impromptu barbeque of sausages while we waited on the side of the road.

One golden rule when travelling in the country: never pass a vehicle if it has stopped on the side of the road. We had every passing vehicle stop or at least slow down to ensure we were OK.

This left three vehicles and the two bikes to continue, while we waited to hear the verdict regarding Peter's vehicle. We stayed at Broken Hill that night, which put us behind by a day. After stocking up on supplies the next morning, we took an off the main road route via Yunta, and up through countryside that would take your breath away.

Passing some properties with beautiful names like 'Koonamore', 'Nillinghoo', 'Frome Downs' and many more, before finally arriving in Arkaroola, about 500 km from Broken Hill, where we stayed for two nights. Akaroola is situated in the beautiful Flinders Ranges of South Australia.

The two days spent at Arkaroola, gave us time to relax, do some washing and explore the surroundings. Monday night, rather than cooking, we enjoyed a meal at the restaurant in the small community of Arkaroola. Our second night, being Tuesday, we were able to run the Blue Mountains Amateur Radio Club's 80 metre net. The controller was Daniel VK2DC.

Photo 2: Antennas at the corner.

Photo 3: Bogged on the last dune before the corner.

From Arkaroola, we moved on to Leigh Creek, then Lyndhurst, Marree and started the Birdsville Track to Birdsville: Marree, to Mulka, past Ooroowilanie ruins, on to Mungeranie. We suffered a windscreen hit after Marree, but fortunately it was on the passenger's side, and was quickly taped over with Gaffer tape to keep out any dust and moisture.

While we had not planned to stay at Mungeranie before we hit Birdsville, we had no choice due to the lateness in the day. It turned out to be a very delightful stopover indeed.

An OCF dipole was erected across a lagoon and contacts were quickly made on both 40 and 80 metres.

## On to Birdsville

From Mungeranie we moved on to Warburton Crossing and then to Birdsville. It was at Birdsville we were advised that Peter VK2US, Erik VK2MAN and Tony VK2KAY would not be rejoining the group as they had decided to return home. The vehicle had not been repaired as they had to fly parts up from Melbourne, and they had not as yet arrived.

The Birdsville Track is one of the more famous outback roads in Australia. The 520 km track runs from Marree, a small town in the north of South Australia, north across both the Strzelecki Desert and Sturt's Stony Desert, ending in Birdsville in south-western Queensland.

On the way into Birdsville we came across dozens of small camps set up in the bush, in paddocks and virtually anywhere that could be found! Now while it was planned to go to the Birdsville races, just to say we had been.

So did some 6,000 other people and it was not even race day!!

So, it was fill up with some 'motion lotion', have a snack, get some goodies and get out as it was getting crowded.

That night we camped at Ayres Creek, which is a small tributary of the Diamantina River. We were lucky to find this spot as it was on a bypass to Ayres Creek, because the normal crossing had washed away.

Flooding of the Diamantina is a reasonably common occurrence with major flooding isolating the towns and properties. Flooding can last several months in some areas and road transport is often disrupted for considerable

periods of time. Next morning we continued west towards Poeppel Corner. We later had word that the Birdsville races had attracted in excess of 20,000 people!

## The fun begins

Big Red is the first and highest of well over 1000 sand dunes, which run north - south in the Simpson Desert for hundreds of kilometres. Big Red, about 35 km west of Birdsville and at only 36.5 metres above sea level, is recognised as a challenge for every 4WD enthusiast. We did not tackle Big Red, as there was a smaller one we could traverse easier with a trailer on some 3 km away.

Firstly we had to deflate all the tyres to about 18 psi (old language here!), high range four wheel drive first gear and just go, tackling each sand dune as we found them. Fortunately with both Gunter and Marty on the bikes, they were able to scout ahead and advise the severity of each one.

It was nothing to have a very steep dune (a gradient of one in three and sand to over two feet thick was not uncommon) and to have a sharp turn at the top! That was a real challenge, as you could not see what was in front until you came over the edge! As I was driving Gunter's Toyota Prado, and towing a trailer it became doubly challenging.

We also used UHF CB channel 10 to advise on-comers of our presence. Only one minor hiccup here, with some miscommunication, but both vehicles were able to take evasive action. Only two sand dunes stopped our vehicle, but with encouragement from the other members of the group, we all made it safely.

I did manage to rip the number plate from the trailer, which was handed in to Birdsville Police Station and we picked it up on the return journey. We had played the Good Samaritan to some bikers with fuel at Ayres Creek and told them about the number plate, so we can only assume they handed it in.

## At the Corner

Bordering Queensland, Northern Territory and South Australia, Poeppel Corner is a very stark, lonely, but beautiful place. Being a country boy, it had a special affinity for me. *Truly God's Country.*

Settling in for a two night stay had always been planned, as we had achieved our goal of getting to Poeppel Corner. Only two corners to go: Haddon, and Cameron Corner.

At each camp we erected antennas for HF, mainly on 40 and 80 metres and Gunter's Delta Loop on 20 metres, and quite often we had a dog pile trying to get in contact. On the second day at the corner, as the bands were very quiet, we took the time to relax, explore and take lots of photographs, while the two bikes were given new tyres and a service.

Two of the strongest signals heard on 40 metres consistently were from Steve VK2BGL, and Markus VK2SK. With the aid of Markus, we were able to contact Bob VK0BP on Davis Base in the Antarctic on 20 metres. Bob is a Club member.

**...the contact gave us the final call area we needed to have contacted all states and territories of Australia**

The signal was not strong with a report of 3 x 1 both ways, but the contact gave us the final call area we needed to have contacted all states and territories of Australia on the PC09 DXpedition.

On the return journey we decided to count the sand dunes from Poeppel Corner. I think we lost count at around 220. It was much easier this time as we had some idea of what to expect.

Approaching 'Big Red' sand dune from the western side it became quite clear what the weekend entertainment was for the Birdsville locals! Come and watch the city slickers in their nice shiny new four wheel drives and see how they fare. All the gear, but absolutely no idea! It was pure chaos! Both bikes were successful in getting over Big Red. We again took the alternate route 'Little Red', which is smaller than 'Big Red', but easier on the vehicles.

On the return, after restocking at Birdsville, we journeyed to Haddon Corner. Haddon Corner borders Queensland and the Northern Territory. It was during this trek that Kevin VK2FTTP and Richard VK2LET happened upon an accident near the small township of Betoota, that had resulted in a roll over, this some 180 km from Birdsville.

They were able to assist in communications with Kevin VK4KKD who contacted the appropriate authorities, giving them the required latitude and longitude to enable the authorities to locate them.

Again, that is another story (*see the article by Richard VK2LET in the November 2009 issue of AR – Ed.*). It did

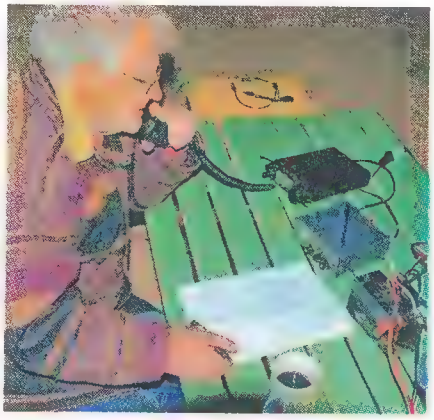

Photo 4: Operating as net control on the BMARC 80 metre net.

**Photo 5: A 20 metre loop erected at one of our stops.**

however show the benefits of amateur radio, particularly in the outback. *'The world's only failsafe method of communication!'*

We had a light lunch and the obligatory photo at Haddon Corner, and it was on toward Innamincka.

On the way to Innamincka, the second window on Gunter's Prado was taken out by a rock. It was quite a shock to hear what sounded like a mini explosion and to discover one of the side windows 'missing' from the Prado. A quick tape up with Gaffer tape and cardboard got us underway in fairly quick time.

I might add that we managed to put a hole in the windscreen just before we arrived at Marree. Oh, and did I mention the flat tyre? From this point, we were given the nickname of 'Team Demolition'!

Innamincka was a very pretty spot as well, and, while it would have been nice to stay, we had to push on. Cameron Corner was the next stop, and again two days were planned.

At Cameron Corner, we made plans to 'fire up' the Dingo Fence on 40 metres. After some difficulties, this was done successfully. This is a story for Ross.

After Cameron Corner, it was on to White Cliffs, a small opal mining town in western NSW. We journeyed via Tibooburra and Milparinka. White Cliffs boasts an underground motel and all modern facilities.

Milparinka is a historic gold mining town, which has some 8,000 visitors each year!

From there the intention was to overnight at Lake Cargellico, but these plans were changed and Dubbo was the next camp. Actually, we camped in Marty's backyard, all five acres of it! After a sumptuous BBQ and some cleansing ale, we settled into what was promising to be a cold night. It had reached minus three degrees the previous night. But we were tired and sleep came quickly.

Just taking in the ever changing colours of the Simpson Desert would simply take your breath away. On the return trip from White Cliffs, it was noted that the countryside colours of the red dust and the green vegetation coupled with the vivid purple of 'Patterson's Curse' were simply awesome.

Next day was to be the last day of our trip and a light breakfast was enjoyed at Wellington Caves, and then on to Mt Panorama in Bathurst where Markus, Peter, Erik and Tony all came along, with Peter VK2PJZ, Terry VK2UX and Joe VK2JP to welcome us back. Markus VK2SK was kind enough to put on a BBQ lunch for us.

Overall, we had a lot of contacts on air, and we had a lot of fun. Difficulties in some promised aspects of the trip were unfortunately encountered, but nevertheless the trip was one that I thoroughly enjoyed.

Plans are in the pipeline to do Surveyor General's corner, which borders Western Australia, South Australia and the Northern Territory. However, that trip is some time off.

I would like to thank my travelling companions who helped make the PC09 DXpedition an enjoyable one, and my role as 'attitude adjustor' was not required. In putting this article together, if I have missed some incidents, or forgotten something, it was unintentional.

To Werner VK2FWMS, thank you for the photos. Images from this DXpedition can be viewed on the BMARC website at www.bmarc.org and follow the prompts.

Participants were: Gunter VK2JAP, Daniel VK2DC, Ross VK2VVV, Chuck VK2SS, John VK2QN, Richard VK2LET, Werner VK2FWMS, Kevin VK2FTTP, Erik VK2MAN, Peter VK2US, Tony VK2KAY and Marty.

ar

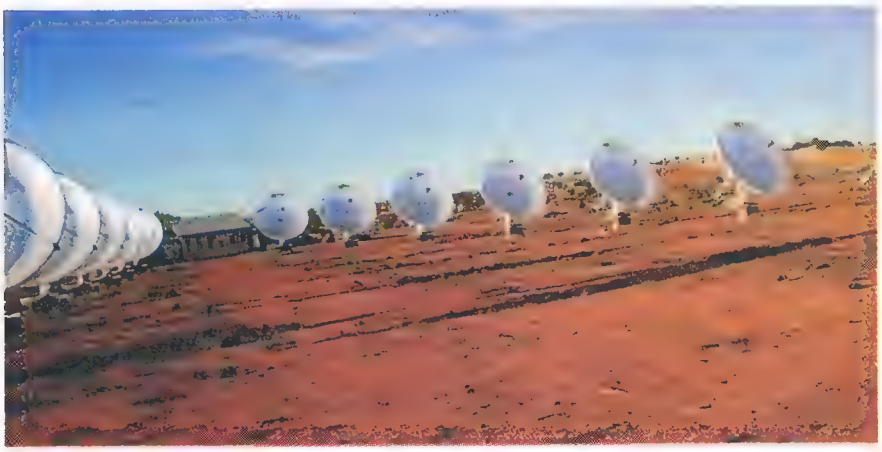

Photo 6: Using the sun at White Cliffs.

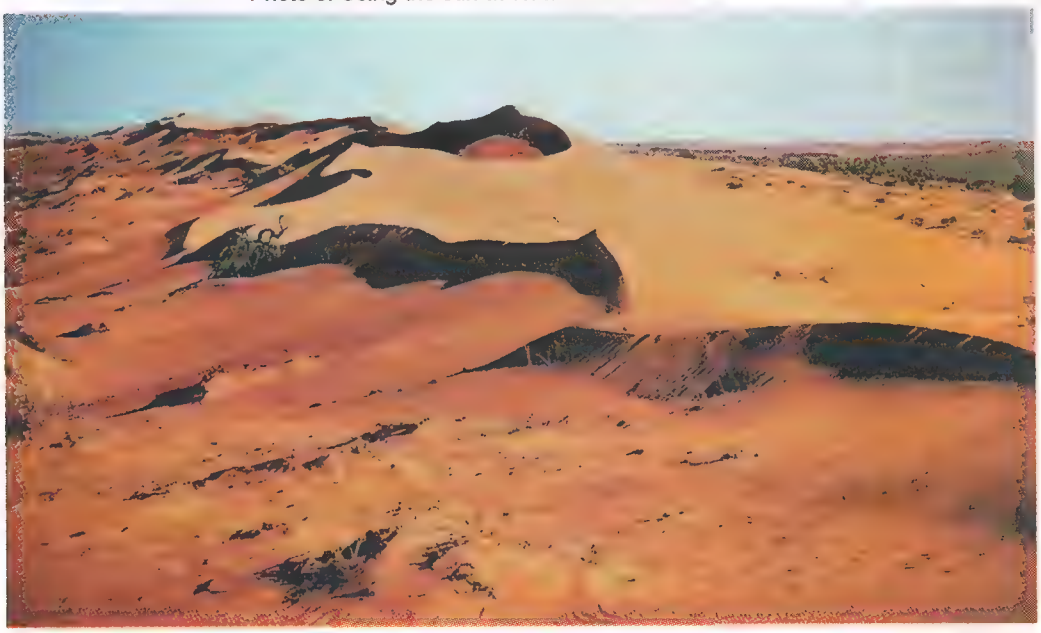

Photo 7: Dunes in the Simpson Desert.

**Photos by Werner Schamberger VK2FWMS**

# News from

Christopher Comollattie VK4VKR
Email: vk4vkr@wia.org.au
qtc@wia.org.au

QTC VK4
First Published July 1927 "Of, By and For the Amateur"
News from/for Queensland Radio Amateurs

## 2010

Welcome to 2010, another year has passed us by, only for another one to begin. I am just wondering what this year may have in store.

### Toowoomba and Downs Wireless Group

From when they first heard of the WIA Centenary in May 2009, members of the 'Toowoomba and Downs Wireless Group' affiliated with WIA have been planning with the 'Milne Bay Military Museum' in Toowoomba, to provide a PowerPoint display of transceivers from early times through to the present. Ray Crawford VK4HDX has been very helpful with early information. It would help us if other near by amateurs prepared to loan early transceivers they have to the secure Museum site from February through to May 2010, would contact Matthew Weatherley VK4TMW (07) 4698 7775 Email: matthewcarole@austarnet.com.au

### WICEN

WICEN Queensland holds a net every Sunday on 7075 kHz from 8:30 am (2230 UTC) Drop in and join the net with one of the either net controllers VK4ZMM or VK4QY

### Bunya Mountains & District AmCom Inc

The Maclagan Ham and Wine Ham fest towards the west happened on the 30th January. We wonder how Ricky VK4NRL, Neil VK4NF and others enjoyed their weekend end or was it a case or two, too many wines??

### Regional HF Nets

Monday Mackay Club VK4WIM 3597 kHz from 0930 Z

Tuesday RADAR VK4WIR 3613 kHz from 0930 Z

Wednesday Gold Coast VK4WIG 3605 kHz from 0930 Z

Thursday Henry Fulford Memorial VK4WAT 3588 kHz from 0930 Z

Thursday Sunshine Coast VK4WIS 3660 kHz from 0930 Z

Thursday Hervey Bay VK4CHB 3615 kHz from 0730 Z

Friday Central Highlands Club VK4WCH 3618 kHz from 1000 Z

Friday Lockyer Valley Club VK4WIL 3570 kHz from 0930 Z

Saturday Darling Downs VK4WID 3587 kHz from 0930 Z

Sunday WICEN QLD VK4IQ 7075 kHz from 2230 Z

Sunday North Queensland VK4WIT 3605.4 kHz from 0930 Z

Sunday Dalby and Districts 3585 kHz from 1000 Z

Do you have a VK4 HF net happening with your club that you would like to advise us about, If so let us know qtc@wia.org.au

Cheers, Chris VK4VKR
From The Sunshine State

ar

# News from VK3

## Geelong Radio and Electronics Society (GRES)

Rod Green VK3AYQ

### We've been busy

A new year can be a time for making resolutions, but it is also a time for reflecting on the year just passed. Normally reported in these notes are the events that have occurred during the preceding months.

However there is much more to a club than just weekly meetings. Within our group we have members who give generously of their time. Our Wednesday group meets every week to work on the maintenance of our club rooms. In addition to this work they also raise money for the club by collecting and selling scrap metal.

Due to the efforts of this industrious group not only are the yearly club subscriptions kept to a minimum, but we have been able to buy new equipment for use by the members.

In the past 12 months we have purchased a HF transceiver complete with power supply and automatic antenna tuning unit. This replaced our Kenwood transceiver that unfortunately suffered from a lightning strike and was unable to be repaired. A new 2 m/70 cm FM transceiver was also obtained. All this equipment is being installed in a custom built operating console.

The antennas for this equipment have also undergone maintenance work, and a new mast and antenna for a WICEN repeater has been installed.

Another acquisition was a video projector which has enabled guest speakers to show PowerPoint presentations. This has also helped to replace the overhead projector and the blackboard.

Adding to our purchases, we have bought a new barbeque which means that social functions previously held in member's homes can now easily be held in our own club rooms.

The sorting of the valves in our valve bank is now complete and the boxes of valves are now all stored in one area. These valves are not only available to club members but can also be purchased for a moderate cost by anyone restoring old valve equipment.

Not all improvements to club facilities have been carried out by the Wednesday group. Some members have taken time out from normal weekly meetings to work on special projects. One of these projects was the installation and commissioning of a server for our computer network. We have also overhauled our club website.

Visitors to Geelong are most welcome to attend our club meetings. These are held every Thursday evening at 8 pm local time at 237A High St Belmont. Or visit our museum which is located in the Old Geelong Gaol in Myers St Geelong. ar

# News From VK3

**Jim Linton VK3PC**
Website: www.amateurradio.com.au
Email: arv@amateurradio.com.au

## Happy New Decade

The Year 2010 has begun, promising improving HF propagation, giving us a year-long centenary celebration plus the return of the Centre Victoria RadioFest Sunday 14 February at the Kyneton Racecourse.

Details of the event can be found in an advertisement in this edition of Amateur Radio magazine and on the website radiofest.amateurradio.com.au

The major commercial traders were quick with their bookings. By early January ten clubs and groups, including Australia's newest - the Macedon Ranges ARC - had accepted Amateur Radio Victoria's invitation to be in the Club Corner Precinct. More tables are available for those who want to take up an excellent promotional opportunity for their club or special interest group.

The VK Microwave Group, just returned from its two-week VK9NA DXpedition on Norfolk Island, will be there to give a presentation as part of the mini-lecture program – not one to be missed. In fact it will be one of four lectures on the day.

The event is proud to be a 'WIA Supported Centenary Activity' and volunteers from both Amateur Radio Victoria and the Central Goldfields Amateur Radio Club look forward to seeing you on the day.

## Special broadcast 7 February

While some of us give up part of our summer holidays for amateur radio administration activities and feel already adequately committed, then comes along an offer that cannot be refused – an invitation to produce the WIA national news broadcast.

Amateur Radio Victoria has been asked to put together the broadcast of Sunday 7 February with the aim of providing some late publicity for the Centre Victoria RadioFest.

It will also include a reference to the Black Saturday bushfire disaster first anniversary, take a fresh look at intruder watching or the International Amateur Radio Union Monitoring Service (IARU MS) which is its official name, preparing for emergencies, reminders about WMBD, IMW and ILLW, plus lots more.

A feature will be an item on the Australian who put man on the moon, Ross Adey VK5AJ K6UI (SK). An article is being prepared for Amateur Radio magazine by Murray Lewis VK3EZM who is keen to obtain a suitable photo of this pioneer of medical research and electronics. He was known to have visited radio amateur friends in Melbourne. If you can assist with a photograph please email either Murray Lewis VK3EZM lokey.editor@yahoo.com or myself Jim Linton VK3PC vk3pc@wia.org.au

## Foundation class

Our Education Team led by Barry Robinson VK3JBR has announced that the next weekend training and assessment session for the Foundation Licence will be 19 and 20 March. For inquiries or to enrol contact Barry on 0419 808 323 or arv@amateurradio.com.au **ar**

# News from VK5

## Adelaide Hills Amateur Radio Society

**Christine Taylor VK5CTY**

The members at the November meeting of AHARS were treated to a very interesting lecture by Justin VK7TW.

Justin described the experiments he and Rex VK7MO, along with a number of other amateurs, have been conducting using beams of light to transmit signals from hilltop to hilltop.

They began testing the available higher power LEDS, including different colours, but found that red was the most efficient. With red LEDs for the transmitters, they initially passed messages across Hobart but, wanting to extend the distance, they did some experiments with lenses to focus the light and proved once again that the simplest can often be the best.

A Fresnel lens about 200 mm across focussed the light better than any glass lens. A Fresnel lens this size can often be seen in the back of a van or caravan. You can buy a Fresnel lens (to assist you to read the fine print on a contract?) from a variety of sources. It is a sheet of clear plastic on which are indented fine grooves, in a circular pattern, simulating a solid lens, but much thinner and lighter.

The size of the lens made construction very simple and allowed them to make quite a large array as they sought ever longer distances. Cars were used for getting to remote spots and the equipment was light enough to be carried by hand if necessary.

They have had a few visits by police following up reports from the locals about these weird red lights in the sky, but once the police knew what they were doing, they had no problems.

Up until October 27, the best distance Rex, Justin and their team had achieved was from one high point to another across the 'top' of Tasmania, but on that date, Rex, Joe VK7JG and Paul VK7KPG

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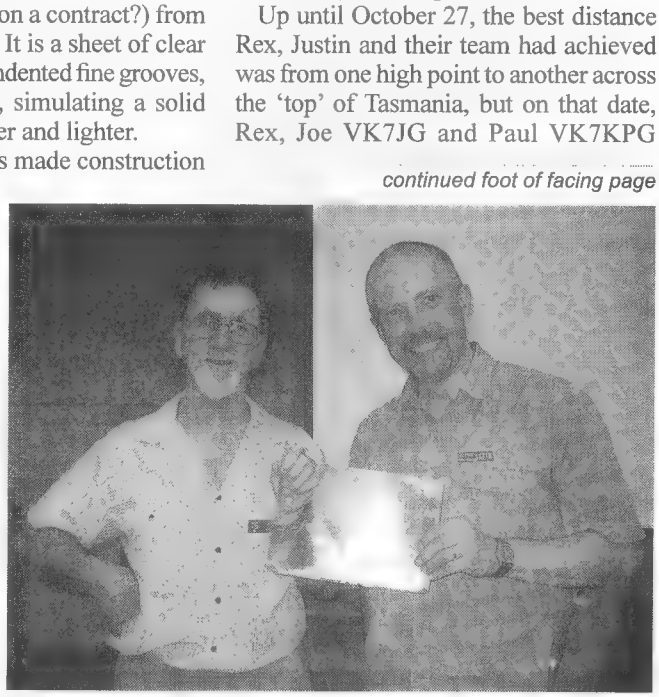

President John VK5EMI and Justin VK7TW holding a fresnel lens. Note the magnification of John's watchband.

# SPOTLIGHT ON SWLing

Robin Harwood VK7RH

Well another year has arrived and I do hope that propagation will dramatically improve. It has taken longer than normal for the current cycle to really kick in.

Add to that many international broadcasters have left shortwave which has certainly eased frequency congestion on HF.

Sadly deliberate jamming is still with us from the usual culprits. North Korea certainly is the one of the most noticeable here as they transmit in a mode which is a cross between DRM and the STANAG modem, favoured by NATO forces.

It sounds awful and is also very wide and the DPRK mostly targets transmissions from South Korea, Japan plus various clandestine outfits. The recent Sydney-Hobart yacht race found HF communications on 6516 difficult to impossible at night from a South Korean clandestine station on 6518 and the much louder jammer co-channel.

The same clandestine outfit is also on 6003, 6348 and 6600 and the jammer is present as well. Both seem to be operating 24/7.The South Koreans also jam clandestine stations from North Korea but use a pulse technique. You can often hear them on 4470, 4120 and 3480.

China also jams international broadcasters yet is more sophisticated by stating they are broadcasting legitimately with relays of their domestic service or CRI. Previously they used to continuously broadcast ethnic music and were dubbed "Firedrake".

Although the latter is still about, it is mostly confined now to jam the "Sound of Hope" (SOH) a clandestine station of the Falun Gong movement. This station really moves about the spectrum and mainly operates outside the normal broadcasting allocations.

SOH itself is rarely heard but Firedrake certainly is obvious. The only time I have heard SOH is because Firedrake seems to have a silent period at the top of the hour. SOH recently switched to morning broadcasts in this cat and mouse struggle with Firedrake.

Channels worth monitoring are 8300, 9000, 11300, 11350 and 13970. SOH has been heard encroaching into 20 metres occasionally. They are probably using converted ham gear and reportedly operating from Taiwan, again illegally.

The other major source of deliberate interference is OTHR. Although not as strident as the infamous Woodpecker in the 70s and 80s, OTHR is still around. China has a large set-up on Hainan Island and its transmissions are extremely wide as hams in the CW segment of 40 metres can attest. The other OTHR is much higher in frequency and reports say is operated by NATO from Cyprus. This is much narrower and has differing pulse widths and rates.

Then I noted a report from Germany claiming they had tracked down an OTHR on Bruny Island! If there was one there we in VK7 would certainly have heard it by now if it was present! A ZL claimed it was a top secret operation.

What a load of nonsense! I am aware of an ionospheric experimental station which has been there for some time but has never caused any QRM.

But hang on, there was this following report on the IARU Region 1 website:

*The Tiger Radar in Region 3 leaves the 10 MHz Band!*

*Tuesday, 29 December 2009 15:32*

*After complaints of VK4DU (Glenn) and DJ9KR (Uli) to the La Trobe University in Australia, the Tiger Radar in Bruny ... will change the frequency data bases. In the future no Ham-Band will be interfered by this Ionospheric Radar System. Great action dear Glenn and Uli. Not moaning but acting is the right way to save our bands. Happy New Year to all intruder busters from DK2OM, Wolf, Coordinator IARUMS Region 1!*

It just goes to prove that I do not know everything! Further details on the radar system can be found on the La Trobe University web site.

The Belgians closed down their shortwave operation on the 31st of December 2009 from Wavre. The Flemish side closed down several years ago and the French (Walloons) continued until then on 9970.

The two language groups in Belgium operated separate broadcasting organisations although using the same senders. The linguistic differences have torn this tiny nation apart. This is another country to leave shortwave.

Good news however is that Radio Prague in the Czech Republic has obtained funding to continue on HF as has its neighbour, Radio Slovakia International. Both share senders and were formerly one nation, Czechoslovakia.

I note that Christian Voice which has been operating from the former Radio Australia site on the Cox Penisula will not be renewing its lease of the site when it becomes vacant this year and will probably leave HF. I believe that they also are closing the site they bought from Deutsche Telekom only recently.

I could not believe my ears listening to 'Family Radio" the other day. The program was "Open Forum" and the host said he had calculated that the World will end on the 21st of May 2011! Take it with a grain of salt for sure because the same individual has made similar prophecies in the past and dates passed without incident. Will the World end then? I do not know but for certain he will have no creditability if the date comes around and nothing happens.

Well that is all for now. Until next time, the very best in monitoring.

73 de VK7RH. **ar**

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*News from VK5 continued*

completed a one-way contact across Bass Strait, from Mt Liptrap in Victoria to Mt Horrible in Tassie, a distance of 288 km (See *AR* December 2009).

Justin had a very good PowerPoint presentation and gave everyone food for thought. There were a few reminiscences about light beam transmission using sealed beam headlights, back in the 1970s from some of the members, too.

The year has ended with a Christmas Lunch at Mount Lofty House attended by 50 members and their partners where a pleasant time and a lovely view were enjoyed.

January will see us at our annual picnic under the trees at the Lions Club in Bridgwater.

The AGM will start the Club Year off on February 18. Persons interested in standing for the committee should contact Club Secretary, David Clegg, VK5KC for a nomination form.

The committee wishes all members and all amateurs the Season's Greetings.

*"DX before Dishes".*

**ar**

# Tales from the South Pacific - Lord Howe Island Dxpedition VK9LA

**A personal account of 10 days on a small island with 15 other amateur radio enthusiasts. 23 March to 3 April 2009**

**Chris Chapman VK3QB**

**With apologies to James A Michener**

## Introduction

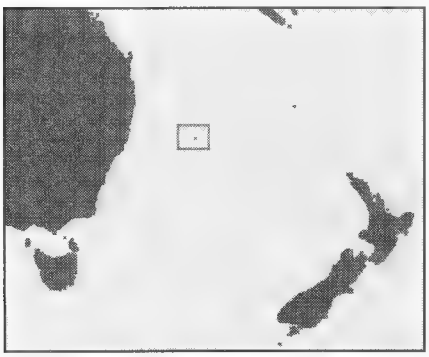
Late in 2008 I received an email from a friend pointing me to a website which was looking for operators to travel to Lord Howe Island in 2009 for a DXpedition.

Ever since I can remember I have wanted to go on a DXpedition. The travel, adventure, new experiences and new friends all coupled in with the fascination of the hobby of kings, amateur radio (late nights, antenna erections, pileups and rare DX)! This opportunity was perfect as it lined up with my personal circumstances re timing, availability and being reasonably close to home it did not require a long-haul flight.

Perhaps most importantly, the DXpedition organising group, the Oceania DX Group (ODXG) was keen to have 'first timers' join some of the more experienced operators for this trip.

So the DXpedition began to take form under the guidance of the ODXG and DXpedition leader, Bill VK4FW. A diverse team was assembled comprising 16 operators (along with four partners) from three continents and five countries.

We also had great diversity in the skills and experience of the team members, with some being die-hard DXpeditioners, and some, like myself, being a DXpedition first-timer. We had computer experts, antenna experts and folk with extensive operational experience on our three modes of operation, SSB, CW and RTTY. The call-sign VK9LA was already allocated to ODXG and preliminary agreements were in place for two suitable sites on the island.



Location of Lord Howe Island

It is fair to say that all 16 operators shared a common set of desires:

- Have fun;
- Work lots of DX – play lots of radio;
- Make new friends and
- Experience an exotic location.

VK9LA promised to offer just that, and more.

This story is a brief account of this DXpedition from the eyes and ears of a first timer. The team was made up of the following operators: Tony IZ3ESV, San K5YY, Bob N2OO, Lance N2OZ, Stan SQ8X, Peter SQ9DIE, Victoria SV2KBS, Tex VK1TX, Luke VK3HJ, John VK4IO, Catherine VK4VCH, Chris VK5CP, Jay W5SL, John VK5PO, Bill VK4FW and Chris VK3QB.

## Lord Howe Island

Lord Howe Island (LHI) is located in the South Pacific, approximately 700 km east of mainland Australia, and is widely regarded as the most beautiful island in the western south Pacific region. It is the closest island getaway from Sydney and is less than two hours flying time from Sydney and Brisbane.

It is one of just four island groups to be inscribed on the World Heritage List for the global significance of its natural beauty and heritage. There are approximately 350 permanent residents and no more than 400 tourists on the island at any one time. These limitations are largely set down by the World Heritage Listing guidelines.

Flights to the island have strict baggage limitations which are governed by the aircraft used to service the island, the de Havilland Canada Dash-8, seating about 32 passengers and allowing only 14 kg of checked baggage per passenger. The runway is likely the limiting factor, as it is only 1,005 metres in length, located on the flattest section of the island which is probably only 1,100 metres wide! The airport was constructed by Australian Army surveyors in 1975 - prior to that the island was serviced by flying boats.

Those with some experience of DXpeditions will quickly realise that these weight limitations would have made any serious DXpedition with 16 operators a virtual impossibility. Hence the ODXG arranged for most of the equipment to be shipped to the island one month before the event.

All power (240 V AC 50 Hz) is provided by diesel generators on the island, and for the most part this was stable and reliable.

## The VK9LA operation - the arrival and setup

The DXpedition was to officially begin on 23 March 2009, but Bill VK4FW was able to fly onto LHI a couple of days earlier. This gave me the chance to work Bill from my home QTH once he had established a basic station set-up, and I was very pleased to be the first in the log with VK9LA – both on SSB and CW on 30 metres.

Over the course of the next two days the remaining 15 operators and some partners arrived on the island. The flight from Sydney was smooth and chatter was predominantly focused on radio matters – as almost half the passengers were the LHI DXpedition crew. I suspect that our constant banter, laughter and impending excitement provided the rest of the passengers with a curious but entertaining air-travel experience.

Abnormal people, that is 99.9% of the population, simply do not understand or appreciate the wonders of amateur radio and DXpeditions!

On arrival on the island we were met by Bill VK4FW who immediately put us to work getting the towers up and beams erected at the Blue Lagoon Lodge.

The team was spread between two resorts. The Beachcomber Lodge was located at the top of a small hill and operated the CW stations. This became known as the 'CW Camp'. About one km away from the CW Camp, down by the beach, was the Blue Lagoon or 'SSB

Camp', and this is where we ran the SSB and RTTY stations.

The CW Camp had elevated verticals for 30 and 40 metres each with 42 radials, a dipole for 80 metres, an inverted 'L' for 160 metres and an R5 vertical, as well as a three element tri-bander on 20, 15 and 10 metres. This camp was, for the most part, fully setup and operational within the first 24 hours.

The SSB Camp required more time and effort than originally planned. First was the three element 20 metre beam. This took longer than expected due to space constraints, so the remaining antennas were left until next day. The SSB Camp worked 20 metres SSB hard the first night. The next day was spent running 20 metres SSB whilst a number of operators worked hard to get the remaining antennas up and operational. Refer to the summary for a full description of the antenna complement.

The VK9LA team had more or less 'taken over' these two tourist facilities so were able to get some latitude and cooperation from the respective owners. The owner of the Beachcomber is a licensed radio operator, VK9FLHI, and was extremely helpful, providing his utility vehicle and enabling us to ferry equipment between the two camps.

Of particular interest was John VK4IO and his 'arborist's tool' – really a super duper sling shot. This device is something to see in action. Within 20 minutes we had the 80 metre dipole up at about 25 metres with one end into a fantastic Norfolk Island Pine and the other into a Silky Oak. Shortly thereafter the 40 metre dipole was up about 18 metres. John then headed up to the CW Camp with Bill and got the 80 and 160 metre antennae up nice and high.

## Operation

ODXG and the more experienced operators made the decision that this would be a very informal DXpedition, and an opportunity for the less experienced of us to build our skills and confidence. We had no formal operating schedules although some rough patterns developed as the team 'found their footings' and preferred bands, modes and shifts began to take form.

Tuesday night I pulled the graveyard shift – my first time on the pointy end of

The VK9LA team. Back: San K5YY, Chris VK3QB, Luke VK3HJ, Chris VK5CP, Lance N2OZ, Bob N2OO, Bill VK4FW, Jay W5SL, John VK5PO. Front: Catherine VK4VCH, Stan SQ8X, John VK4IO, Tony IZ3ESV, Tex VK1TX, Peter SQ9DIE and Victoria SV2KBS. Photo by the partner of one of the team members (not recorded).

Lord Howe Island (photo courtesy Go Australia)

John VK3IO launches the 80 metre dipole skyhook. Photo by Chris VK3QB.

a pileup. What a baptism of fire, forty metres CW. I took over from a very experienced operator in Bob N2OO who had been working at 30 wpm plus and I dropped to about 20 wpm. The first hour I got maybe 20 QSOs. It was a complete zoo.

I managed to keep the pileup quite tight and as my ear tuned in the rate increased – the next five hours was a buzz. I finished up at 4 am, extremely satisfied but rather exhausted. How does one describe this experience to the uninitiated? It was six hours of constant CW 'noise', it sounded like a cacophony of Morse code music but the problem being it was almost impossible to discern individual signals.

The challenging and fun bit was taking control of the pileup – and Bob N2OO and Bill VK4FW had explained this to me in the briefing sessions. I had also read W9KNI Bob Locher's book 'The Complete DXer' prior to the trip which was most instructive and entertaining – a recommended read.

However, I did not appreciate just what this all meant until I experienced it first hand. My first hour was spent listening and learning how to break the pileup into manageable chunks – it sounded more like RTTY or PSK31 than CW! Coping strategies included:

- going split up 2 or 3 kHz, or more – sometimes up/down +/-8 kHz
- picking the strongest signals first
- picking signals at the top/bottom end of the pileup
- calling for certain regions/call areas/ prefixes only
- QSYing to the other side of my calling frequency – there was always at least one guy waiting for this approach and the pileup quickly followed.

By the second hour I had some confidence and had a reasonable control of the pileup – and was very happy to increase the QSO rate from about 20 QSOs in the first hour to about 50 to 60 in the 2nd and 3rd hours. For the uninitiated this is not a fast QSO rate for a DXpedition operator – the more experienced operators were rocketing along at a much faster rate. However, as with most endeavours in life, practice makes perfect, and I found the experience to be fantastic and a load of fun.

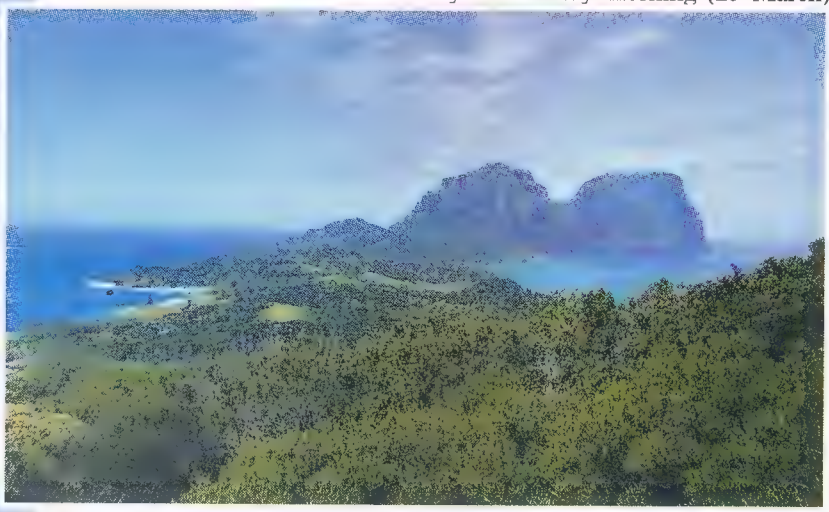
The next day I managed to get some intermittent internet access and I could not help but check the DX-cluster to see the usual barrage of helpful comments and advice.... here are just a few that appeared about the time I took over operation:

- Joke!! QRSSSSSSSSSSS. No QSO.
- Fake. Change in operator style.
- FINALLY REAL SIGNAL REPORTS!!

There is a lesson to be learned here for those posting spots on the cluster; and also an interesting observation of how a change of operator can be interpreted by those 'chasing the DX'. I found it most insightful!

By Wednesday morning (25 March)

VK3HJ adjusts the WARC tri-bander's rotator. Photo: Stan SQ8X



Chris VK3QB and Chris VK5CP made the hike to the southern tip of the island. This picture is taken to the northern end of the island and puts the size of the island into perspective. Mt. Gower is the furthest mountain in this picture and rises 875 metres ASL. Photo by Chris VK3QB

we had all antennas up with full coverage from 160 metres and all seven stations working at full capacity. Conditions were woeful from late Wednesday afternoon. I did graveyard shift and managed to work only 37 QSOs in 4 hours. It was very hard work and frustrating; I imagine for both ends of the pileups – or lack thereof.

Most of the other stations did not do much better. These conditions persisted for most of the night and into the next day, and did not start to improve until late Thursday. Dull conditions put a real dent in our ability to get the QSO rate up and put the pressure on for the rest of the trip.

It is worth noting at this point that this DXpedition was arguably held at the absolute sunspot minima, with only 0.7 sunspots, that is, not even one, being observed for the entire month of March. This would largely have accounted for the lack of propagation and activity on the higher bands.

It should also be noted that LHI is 12,000 kilometres from North America, 9,500 kilometres from Japan and 16,500 kilometres from central Europe, all requiring multiple multi-hop propagation on short path, further exacerbating the impact of these poor conditions on our QSO rates into NA, JA and EU on the higher bands.

It would be entirely remiss of me not to make mention of John VK5PO who almost single-handedly ran the RTTY station and handed out VK9LA to over 2,000 stations. A number of operators who had never worked RTTY before took the opportunity to look over John's shoulder and watch the signals 'magically appear' on the computer screen. Here was a perfect example of an operator fuelled on caffeine and RTTY adrenaline!

On the Friday (27 March) Chris VK5CP and I hiked up to Malabar, a hill about 210 metres above sea level on the southern point of the island. We both took the opportunity to work VK9LA as VK3QB/9 and VK5CP/9 respectively on 146.225 FM from the top of Malabar. Most of the remaining team members made the walk over the course of the weekend – well worthwhile with a great view from the southern tip of the island up to the north. The adventurous EU guys took a guided tour up the 875 metre Mt Gower, regarded as one of the world's best day walks.

Some of the team entered into the CQ WPX SSB Contest as a Multi Two All Band Category. Despite poor conditions we managed a score of 1,884,168 points. This put the VK9LA team in 39th place, or 2nd place for VK, with congratulations to VK4KW, which I think the team can be very proud of considering the bulk of our effort and energy was being placed on the DX side of things rather than the contest.

After the first few days we had all settled into a casual routine, and it was very nice not to be pressured, knowing that there would always be some-one willing to take over the station when fatigue and/or frustration became overwhelming. Equally so, there was always some-one willing to hand the controls over to a fresh operator.

On the Monday evening (30 March) I wandered up to the CW Camp about 11 pm and took over from Jay W5SL on 80 metres. Stateside was coming in consistently and after two hours propagation started to drop out and I moved onto the JAs. This will come as no surprise to many, but it is not possible to clear a pileup with JA. However, the JAs are very well mannered and the QSO rate was relatively high for a newcomer. I was very pleased to be averaging about 50-60 QSOs per hour. Propagation moved across HL, UA0 and very slowly into northern EU. I worked quite a few OM and OH but no southern EU was heard. Again, I finished up about 4 am and headed back to the SSB Camp after checking in with fellow operators Tony IZ3ESV on 40 metres CW, and Stan SQ8X on 30 metres CW.

About this time LHI was getting hit by the tail end of a cyclone that had been battering northern Australia and we all shared concerns for the Mellish Reef team, George AA7JV and Tamas HA7RY, who were en-route at that stage to operate VK9GWM. The Mellish Reef team were almost 1,600 kilometres due north of our position which would have made a noticeable difference to both their weather and also propagation paths into JA, EU and NA. Thankfully they made it safely and we heard them on many occasions towards the end of our trip. The winds did cause some concern for our 'tower and antenna man' John VK4IO who made regular outdoor ventures to double/triple check the guys and general condition of the towers and antennas.

Bill VK4FW and I had a fun and challenging late evening/early morning working 160 metres into North America (stateside) and Canada. It was hard work

John VK5PO working RTTY. Photo by Chris VK3QB. Photo by one of the team members (not recorded).

Chris VK3QB working the CW pileups on 40 metres.

but we had two sets of headphones and 'shared the joy' of pulling the signals out of the mud. It was particularly interesting to note that our own individual 'internal DSPs', that is, our brains, would be tuning in on different signals in the receiver's bandpass; probably also a result of a difference in hearing bandwidth - tone deafness I think is the common parlance! At one stage I swore I had copied a K6 station and Bill was chastising me for not logging the WA7 station strangely, we were both correct

The 160 metre DX bug has definitely bitten

As we entered the final couple of days of the DXpedition everyone was well into a routine and enjoying themselves The weather was unfortunately still windy and overcast. I was operating on irregular intervals and with varied sleep patterns, waking up at all hours buzzing from the pileups the previous night Various sessions were spent doing some 17 metre SSB work with very good, although sporadic, openings into W, VE and PY, but we had to contend with very heavy QSB and QRM from the CW station up the hill.

As we neared the end of the DXpedition I became more aware of the need for sleep if I was to operate the graveyard shifts So, in good amateur tradition, I dragged Chris VK5CP to the local bar for a beer or two on more than one occasion – a surefire recipe to get some more sleep

On the last evening the whole team took some time out and went out for dinner. A good meal of locally caught fish was enjoyed by all. It also presented an ideal opportunity for a debriefing of the operation to date with all team members agreeing the experience had been thoroughly rewarding and enjoyable

## The 'take-down and pack up'

Due to the general concern about the weather a team decision was made to commence the 'take-down' one day earlier than originally planned, and this began on Wednesday 1 April. It was still windy and overcast, but very mild, around 24°C

Given the windy conditions and requirement to have all the gear fully packed and sealed by nightfall on Thursday it was necessary to play on the safe side and get the towers and beams packed away. The bulk of the morning and early afternoon was spent taking down the towers and beams

The afternoon was spent in the SSB shack listening to the operators work some 15 metres and later in the day 40 metres as usual EU stations started coming in around 5 pm local time

At 8 pm I wandered to the CW Camp where we ran the VK/ZL night and worked a bunch of locals on SSB and CW. It was great to hear so many familiar call-signs and receive greetings from many VKs who knew various team members

Then I listened with Bill on the 160 metres gray line to stateside We worked 12 stations or so with varying signals and a few JAs and VEs thrown in for good measure The antenna did quite a good job considering it was a ¼ wave inverted 'L' at 20 metres with 12 radials and it proved itself to be a good performer I spent a lot of time listening on 160 metres on this trip with the more experienced operators and am looking forward to getting a similar antenna up at my home location

The final day prior to departure (Thursday 2 April) was spent mostly dismantling the remaining antennas and equipment and getting it packed securely

Packing up Two pallets and two crates as well as the towers Pictured from left to right, are VK4IO VK3HJ and VK4FW Photo by Chris VK3QB

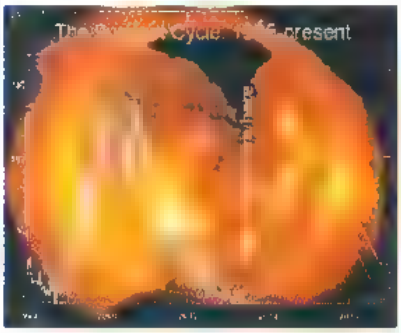
### Comments on the Sunspot Cycle

April 1, 2009. The sunspot cycle is behaving a little like the stock market. Just when you think it has hit bottom, it goes even lower.

2008 was a bear There were no sunspots observed on 266 of the year's 366 days (73%) To find a year with more blank suns, you have to go all the way back to 1913, which had 311 spotless days

Prompted by these numbers, some observers suggested that the solar cycle had hit bottom in 2008.

But - maybe not! Sunspot counts for 2009 have dropped even lower As of March 31st, there were no sunspots on 78 of the year's 90 days (87%) It adds up to one inescapable conclusion: 'We are experiencing a very deep solar minimum,' says solar physicist Dean Pesnell of the Goddard Space Flight Center 'This is the quietest sun we have seen in almost a century,' agrees sunspot expert David Hathaway of the Marshall Space Flight Center.



The sunspot cycle from 1995 to the present The jagged curve traces actual sunspot counts Smooth curves are fits to the data and one forecaster s predictions of future activity Credit David Hathaway NASA/MSFC

onto the pallets for return shipping to Brisbane.

The final day, Friday 3 April was spent packing our personal luggage and relaxing prior to the flight back to Sydney. From memory I think that the flight was full and about 70% of the passengers were the VK9LA team; a good representation of a fine DXpedition.

## Summary

Many people do not realize just how much planning, effort and cost goes into putting on a DXpedition. Our DXpedition leader Bill VK4FW spent countless days planning the event, contacting people, organising freight, sponsors, coordinating and generally making sure that the event was able to proceed. John VK4IO provided extensive assistance performing a three day dry-run of the antenna complement with Bill some weeks prior to the event. Once the antennas (and towers) were configured, tuned and tested they were fastidiously packed and prepared ready with the rest of the equipment for shipping to LHI.

Without individual airfares (for the non-VK operators) taken into account, I would estimate this Dxpedition cost in the order of $50,000, with additional significant cost not being accounted for as much of the equipment was provided either by the operators, ODXG or our sponsors. Below are some details to give an insight into just what goes into a DXpedition of this size.

Arguably, this DXpedition occurred at the sunspot minima with virtually no sunspots for the 30 days preceding the DXpedition and the SFI not exceeding 68. This is reflected in the lack of QSOs on the higher bands.

## QSO Statistics

### Table 1 – Summary of QSOs

| Band | Total QSOs | CW | SSB | RTTY |
|---|---|---|---|---|
| 160 | 627 | 627 | 0 | 0 |
| 80 | 3,347 | 1,496 | 1,851 | 0 |
| 40 | 9,111 | 6,001 | 3,110 | 0 |
| 30 | 4,458 | 3,857 | 1 | 601 |
| 20 | 6,714 | 3,084 | 1,194 | 1,194 |
| 17 | 3,579 | 2,377 | 1,202 | 0 |
| 15 | 2,158 | 1,235 | 660 | 263 |
| 12 | 161 | 160 | 1 | |
| 10 | 5 | 5 | 0 | 0 |
| 6 | 0 | 0 | 0 | |
| Total | 30,160 | 18,842 | 9,261 | 2,057 |

- Shortest DX: 100 metres to Des VK9FLHI, the owner of the Blue Lagoon Lodge
- Rarest DX: TL0Z on 40 metres
- Total DX Entities worked: 149
- Total entities on CW: 119
- Total entities on SSB: 125
- Total entities on RTTY: 60

## Station Statistics

- Two pallets, four towers and a crate totalling about 2,400 kg of equipment sent via ship
- 10 laptops
- Six Icom IC-7000 radios – with thanks to Icom America
- One Elecraft K3
- One TS-480HX
- Two ACOM amplifiers
- Two 811 amplifiers
- Two IC-2KL amplifiers
- Heil headsets for all operators.

## SSB Camp Antennas

- 3 element beam on 20 metres
- 4 element beam on 15 metres
- 3 element beam on the WARC bands
- 40 metre dipole
- 80 metre dipole

## CW Camp Antennas

- 3 element tri-bander
- elevated vertical on 30 metres with 42 radials
- elevated vertical on 40 metres with 42 radials
- R5 vertical
- 160 metre ¼ wave 'L'
- 80 metre dipole
- 6 metre vertical

## Epilogue....

I particularly want to thank the more experienced operators who mentored and advised me on how to handle the CW pileups – it was an invaluable learning experience – so thanks for all the support and encouragement to San K5YY, Bob N2OO and Bill VK4FW with an extra big thanks to ODXG and Bill, our DXpedition leader who made this trip possible. And it goes without saying that I extend my thanks to the rest of the team members who all helped make VK9LA a fantastic experience.

This will not be my last DXpedition, but like so many experiences in life, the first is something special and will always be remembered. In fact, since this trip I have combined a holiday with a mini-DXpedition to Vanuatu as YJ0QB.

Thanks are also extended to our many sponsors, DX Associations and individual amateurs who supported this DXpedition. The larger sponsors are listed below, but every single organisation and individual who donated their time, money or equipment is gratefully acknowledged.

- Icom America
- INDEXA
- NCDXF
- GDXF
- Heil Sound
- ACOM
- TET-Emtron

If you have ever wondered about a DXpedition and get the opportunity to join one, jump at it. Chances are you will have a truly memorable experience and become a far better radio operator, not to mention all the fun and enjoyment of spending time with like-minded people in a rare and exotic location. And the pile-ups can only be described as challenging, rewarding, satisfying and a bucket load of fun.

# News from VK7

**Justin Giles-Clark, VK7TW**
Email: vk7tw@wia.org.au
Regional Web Site: reast.asn.au

## Congratulations

The release of the RD contest results for 2009, reveals a total of 35 logs submitted from VK7 with the following split: 22 logs - HF Single Operator Phone, 10 logs - VHF Single Operator Phone section, one log - HF Single Operator Open section, one log - HF Multi Operator Phone section and one log in the HF CW section.

Special congratulations go to Laurie VK7ZE for first place in the HF Single Operator Phone section with 847 points and Martin VK7GN for first place in the HF Single Operator Open section with 843 points.

## VK7 Repeater News

Joe VK7JG has been busy again and has replaced the 70 cm repeater, VK7RAL (439.900 MHz -5 MHz offset and CTCSS tone of 141.3 Hz) on Companion Hill.

Joe also lets us know that the East Coast repeater VK7REC at Snow Hill is off the air indefinitely due to an upper tower collapse. This collapse was due to many factors and it is unknown when (or if) this will be fixed. As of the December 16, 2009, VK7RAD in Hobart now requires a CTCSS tone of 141.3 Hz to access this repeater.

This is due to increasing level of interference being experienced on this repeater. Repeater Map for VK7: http://reast.asn.au/repeaters.php

## Northern Tasmania Amateur Radio Club

Another great Myrtle Park Christmas BBQ happened for 2009. Some notable NW attendees were: Max VK7KY and Shirley VK7HSC, as well as Winston VK7EM & XYL Elizabeth and Brian VK7KBE. The Slippery Trout award (first trout of the night) was won this year by Peter VK7KPC.

NTARC has been approached to possibly establish and operate an amateur radio station in the Tramways Museum on Invermay Road in Launceston. If interested in this venture please contact a committee member to discuss.

## Cradle Coast Amateur Radio Club (CCARC)

CCARC held its Inaugural Christmas Dinner/Social evening on Saturday December 5, 2009 at the Bass and Flinders Convention Centre in Ulverstone. The CCARC Secretary reported that they had a great roll-up and wonderful food and it turned out a top evening.

CCARC would also like to thank WICEN Tasmania (South) for inviting CCARC to assist with the Tasmanian Equine Endurance Riders State Championships at Sassafras on November 26, 2009. CCARC website: http://www.my-x15.net/ccarc/

## North West Tasmanian Amateur TeleVision Group

Congratulation to new Foundation Licence holders: Ursula Roos VK7FROO, Graham Anderson VK7FGAA, and Andrew Kirkpatrick VK7FAJK, who recently passed their assessments.

The club Christmas dinner was well attended and the club's success was celebrated. The Annual General Meeting will be held on February 13, 2010 at the QTH of Ivan VK7XK at Gawler.

There are new broadcasts on Monday nights and new nets on a Wednesday nights on the NWATVG repeaters. Check out the website for more details: http://www2.vk7ax.id.au/atvgroup/

## WICEN Tasmania (South)

WICEN Tasmania (South) teamed up with CCARC to provide communications for the 2009 Tasmanian Equine Endurance Championship held at Sassafras. Torrential rain, thunder, lightning and mossies added to the atmosphere!

Apart from these challenges, all went well and the job was completed successfully. WICEN (South) thanks CCARC who did a wonderful job. The next WICEN event is the Targa Wrest Point tarmac rally on January 30-31, 2010. WICEN Tasmania (South) website: http://tas.wicen.org.au/

## Radio and Electronics Association of Southern Tasmania

Congratulation to the following new Foundation Licensees: Geoffrey Gibbon, Peter McHugh, David Bennett, Alex Whiteside, George Parramore, David Blair and Stuart Marshall. Paul Hanson VK7FPAH also passed his Standard licence assessment. At the time of writing this column, callsigns had not been issued.

The new ATV studio has been completed and our first broadcast from the new facility occurred on January 6th. Thanks especially to Anders VK7FAJM, Paul VK7FPAH and Warren VK7FEET and the many others who helped to get the studio back into operation. Stay tuned for more on this exciting development. REAST website: http://reast.asn.au/

BT

## ADVERTISERS INDEX

ATN ..... 62
Av-Comm ..... 63
Bookshop ..... IBC, Fly
CCARC (Wyong) ..... 30
Centre Victoria Radiofest ..... 16
Com-an-tena ..... 6
Cookson (Jackson Bos) ..... 63
EMDRC ..... 15
Hamak Electrical Industries ..... 63
Icom ..... OBC
Little Devil Antennas ..... 63
Ludatronics ..... 63
Radiowave ..... 62
RF Tools ..... 63
Tet Emtron ..... 15
Tower ..... 63
TTS ..... 29 and 63
Yarra Valley ..... 21
VKHam ..... 63

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David Giles VK5DJ
vk5dg@amsat.org

# 2009 - lots of satellites

**During 2009 there were several launches carrying satellites with transmitters on amateur bands. Only two (SO-67 and HO-68) carry an amateur transponder, the majority of the others are university projects. There were successes as well as failures.**

Those successfully launched and still operating are KKS-1, PRISM, STARS, ANUSAT, CASTOR, SumbandilaSat (SO-67), UGATUSAT (RS-38), Swisscube, ITUpSAT and XW-1(HO-68). Those that were launched successfully and operated for a while were PharmaSat, CP6, and POLLUX. I've had no reports of BEESAT being heard over VK/ZL. SOHLA-1, AGGIESat and UWE-2 are only turned on over their respective command stations.

As for the OSCAR satellites, LUSAT (LO-19) went silent during October just three months short of its 20th anniversary. JAS-2 (FO-29) suffered from long eclipse periods since August but is expected to recover early in 2010. UOSAT-2 (UO-11) has briefly sprung into life late in 2009 after not being heard for 18 months. CUTE-1.7+APD (CO-56) re-entered during October.

## Six-monthly review of operational OSCARs.

Here is an updated review of the operational OSCARs and other satellites using amateur satellite service bands. All satellites listed here have been heard during November-December 2009 by myself except PCSAT (NO-44).

Satellites added or revised since last review in July: UO-11, CASTOR, SO-67, Swisscube, ITUpSAT-1and HO-68.

Failed satellites since last review: AO-16, LO-19, PharmaSat, CP6.

The names of the satellites are given as OSCAR number, full name and (NASA catalogue number). Modes are represented by frequency bands: H=10 m, V=2 m, U=70 cm, L=23 cm, S=13 cm in order of uplink/downlink.

Linear transponders use CW and SSB. With the exception of AO-7's V/H transponder, all linear transponders are 'inverting' types and use LSB for the uplink and USB on the downlink. For AO-7 mode V/H use USB for both links. Most of the activity is in the middle of the passband.

Foundation licensees are permitted to transmit SSB/CW and FM voice to any of the satellites in the 10 m, 2 m and 70 cm bands as well as receive all the satellites. Foundation licensees are not permitted to use 23 cm uplinks (e.g. AO-51 and CO-67) or AO-51's 13 cm downlink (e.g. mode V/S). See the AMSAT column in September 2009 AR for more details.

Telemetry decoding programs for several satellites are available from Mike Rupprecht's website at http://www.dk3wn.info/software.shtml

### AO-7 AMSAT OSCAR 7 (7530)

**Launched:** 15/11/1974
**Status:** Operational only when it is in sunlight. It may be in any mode. During non-eclipse periods it will alternate between modes V/H and U/V every 24 hours. Beacons are not always on. AO-7 will remain in full sunlight until June 2010.
**Mode:** V/H (old mode 'A'), linear, non-inverting.
**Uplink:** 145.850-145.950 MHz, Downlink: 29.400-29.500 MHz
**Beacon:** 29.502 MHz CW. Occasionally the 435.106 MHz CW or RTTY beacon may be on.
**Mode:** U/V (old mode 'B'), linear, inverting.
**Uplink:** 432.125-432.175 MHz, Downlink: 145.975-145.925 MHz
**Beacon:** 145.972 MHz CW at 10 or 20 wpm, intermittent operation.
Check the online log for current status at http://www.planetemily.com/ao7/main.php

### UO-11 UOSAT-2 (14781)

**Launched:** 1/3/1984
**Status:** Intermittent. UO-11's 145.826 MHz beacon came back to life late 2009 after being silent for 18 months and will only work when in full sunlight. You may hear its distinctive signal while monitoring the frequency for other satellites such as ISS, NO-44 and CASTOR.
**Beacon:** 145.826 MHz FM 1k2 AFSK
**http://www.g3cwv.co.uk/oscar11.htm**

### IO-26 ITAMSAT (22826)

Launched: 26/09/1993
**Status:** Semi-operational. IO-26 is in Master Boot Loader (MBL) mode. It transmits continuous BPSK carrier with the occasional telemetry packet.
**Mode:** -/U 1k2 BPSK
**Beacon:** 435.790 MHz (Note: this has shifted from the original published frequency)
**http://www.amsat.dk/oz7sat/tlm/view.php?sat=io26**

### FO-29 FUJI-OSCAR 29 JAS-2 (24278)

**Launched:** 17/8/1996
**Status:** Semi-operational as linear transponder. Most activity is around 435.850 MHz. The BBS and digipeater operation have not been used since 2003. FO-29 has been going through long eclipse periods since August and the battery under voltage detector has turned off the transmitter. It is expected to be usable again early in 2010.
**Mode:** V/U linear, inverting.
**Uplink:** 145.900-146.000 MHz, Downlink 435.900-435.800 MHz
**Beacon:** 435.795 MHz CW telemetry.
**http://www.ne.jp/asahi/hamradio/je9pel/index.htm**

### GO-32 GURWIN TECHSAT-1B (25397)

**Launched:** 10/7/1998
**Status:** Intermittent. Since 30/3/2009's on-board computer crash, GO-32 has been sending intermittent telemetry. The downlink may be changed to 435.325 MHz.
**Mode:** V/U for APRS, 9k6 FSK
**Uplink:** 145.930 MHz, Downlink: 435.225 MHz
**Mode:** V/U for PacSat BBS, 9k6 FSK
**Uplinks:** 145.850 MHz, 145.890 MHz, 145.930 MHz, Downlink: 435.225 MHz
Mode L/U for PacSat BBS 9k6 FSK
**Uplinks:** 1269.700 MHz, 1269.800 MHz, 1269.900 MHz, Downlink: 435.225 MHz
**BBS callsign:** 4XTECH-12
**Beacon callsign:** 4XTECH-11
http://www.amsat.org/amsat-new/satellites/satInfo.php?satID=14&retURL=/satellites/status.php

### NO-44 PCSAT (26931)

**Launched:** 30/9/2001
**Status:** Operational only in full sunlight. One solar panel and the batteries are not functioning.
**Mode:** V/V 1k2 AFSK packet digipeater
**Uplink:** 145.827 MHz, Downlink 145.827 MHz
**http://pcsat.aprs.org**

### SO-50 SAUDISAT-1C (27607)

**Launched:** 20/12/2002
**Status:** Operational. SO-50 has a sensitive receiver and a transmit power of only 250 mW.
**Mode:** V/U FM voice with 67 Hz CTCSS tone
**Uplink:** 145.850 MHz Downlink 436.795 MHz (but may switch to 436.800 MHz).
To switch the transmitter on you need to send a few seconds of 74.4 Hz CTCSS tone.
The order of operation is thus (allow for Doppler

as necessary):
1) Transmit on 145.850 MHz with a tone of 74.4 Hz to arm the 10 minute timer on board the spacecraft.
2) Now transmit on 145.850 MHz FM voice using a 67 Hz CTCSS tone to access the transponder.
3) Sending the 74.4 Hz tone again within the 10 minute window will reset the timer. Users have reported difficulties.

### AO-51 AMSAT-OSCAR-51 ECHO (28375)

**Launched:** 29/6/2004
**Status:** Operational
**Mode:** AO-51 is a versatile satellite that can be configured to operate in many modes, often two at a time. It can use FM and SSB voice, 9k6 and 38k4 FSK packet as a BBS or digipeater. It has 3 transmitters (two on 70 cm and one on 13 cm), four 2 m receivers and a wideband receiver that has been used on 10 m and 23 cm.
The control team issues a monthly bulletin on modes and frequencies AO-51 will be using.
**Default voice mode:** V/U FM voice
**Uplink:** 145.920 MHz, Downlink 435.300 MHz (no PL tone required)
**Default digital mode:** L/U 9k6 FSK
**Uplink:** 1268.700 MHz, Downlink: 435.150 MHz
**Beacon:** 435.150 MHz 9k6 FSK
http://www.amsat.org/amsat-new/echo/CTNews.php

### VO-52 HAMSAT (28650)

**Launched:** 5/5/2005
**Status:** Operational. VO-52 has two linear transponders that use nearly the same passbands. The Indian transponder is normally in use. Most activity is around 145.900 MHz.
**Mode:** U/V linear inverting.
**Indian transponder:**
**Uplink:** 435.220-435.280 MHz, Downlink 145.930-145.870 MHz
**Beacon:** 145.936 MHz continuous carrier
**Dutch transponder:**
**Uplink:** 435.225-435.275 MHz, Downlink 145.925-145.875 MHz
**Beacon:** 145.860 MHz CW 12 WPM preset message
**http://www.amsat.in/hamsat.htm**
**Note:** FM operation on VO-52 is permitted for QRP/handheld. In India, SSB gear is not very common and the operations team have suggested that FM operators can use this bird. If you are planning to work FM, please use another part of the passband e.g. 145.920 MHz. It would be best to arrange a sked in advance, as VO-52 is rarely used in FM mode over VK/ZL. Excessive uplink power will cause the beacon to FM.

**The following are mainly Cubesats. Reception reports are often well received and can result in a QSL card for your efforts. See websites for details.**

### CO-55 CUTE-1 (27844)

**Launched:** 30/6/2003
**Status:** Operational. From the first Cubesat launch CO-55 continues to send CW telemetry.
**Mode:** -/U CW telemetry
**Beacon:** 436.8375 MHz
http://lss.mes.titech.ac.jp/ssp/cubesat/index_e.html

CO-57 Xi-IV (27848)
**Launched:** 30/6/2003
**Status:** Operational. From the first Cubesat launch, CO-57 continues to send CW telemetry. It also has an on-board camera. Pictures of the Earth can be found on the website below.
**Mode:** -/U CW telemetry
**Beacon:** 436.8475 MHz
**http://www.space.t.u-tokyo.ac.jp/gs/en/index.aspx**

### CO-58 XI-V (28895)

**Launched:** **27/10/2005**
**Status:** Operational. CO-58 has an on-board camera. Pictures of the Earth can be found on the website below.
**Mode:** -/U CW telemetry
**Beacon:** 437.465 MHz
**http://www.space.t.u-tokyo.ac.jp/gs/en/index.aspx**

### DO-64 DELFI-C3 (32789)

**Launched:** 28/4/2008
**Status:** Semi-operational. The linear transponder has failed. The control team switched DO-64 back to science mode on 29/1/2009. Often by the time it has reached VK/ZL the transmitter has stopped, so it will be heard here occasionally. If they change it to basic mode then the telemetry will be heard over VK/ZL on most passes. The telemetry can be demodulated and decoded using software from the Delfi website.
**Mode:** -/V 1k2 BPSK telemetry
**Beacon:** 145.870 MHz (primary) or 145.930 MHz (secondary)
**http://www.delfic3.nl/index.php**

### CO-65 CUTE-1.7+APDII (32785)

**Launched:** 28/4/2008
**Status:** Operational. The CW beacon is on. The mode L/U APRS digipeater has been activated during weekends using 9k6 GMSK modulation. Reports from Japanese operators have proven the digipeater works. Unproto via JQ1YTC.
**Mode:** -/U 437.275 MHz CW telemetry.
**Mode:** L/U 9k6 GMSK
**Uplink 1267.603 MHz, Downlink 437.475 MHz**
**http://lss.mes.titech.ac.jp/ssp/cute1.7/index_e.html**

### CO-66 SEEDS II (32791)

**Launched:** 28/4/2008
**Status:** Operational. CO-66 is a Cubesat that transmits CW telemetry, packet telemetry and a pre-recorded message of voice and SSTV. Sometimes all three can be heard during a pass over VK/ZL as it changes modes. At 450 mW output, CO-66 has the strongest signal of the Cubesats.
**Mode:** -/U CW telemetry, 1k2 AFSK packet and FM Digitalker/SSTV
**Beacon:** 437.385 MHz
http://cubesat.aero.cst.nihon-u.ac.jp/english/main_e.html

SO-67 SumbandilaSat (35870)
**Launched:** 17/9/2009
**Status:** Operational but transponder times are set by command stations. SO-67 will not be available for every pass. Its high powered transmitter (5 watts) is easily heard. There is a 3 second tail after each transmission, so pause before transmitting to the satellite. Keep your overs brief as there is also a cut-out timer. For best results set your radio to narrow FM or turn down the mic gain if your transmitter allows.
**Mode:** V/U FM voice
**Uplink:** 145.875 MHz with 233.6Hz CTCSS, Downlink 435.345 MHz
**Beacon:** 435.345 MHz FM recorded message
**http://sumbandilamission.blogspot.com**

### HO-68 XW-1 CAMSAT (36122)

**Launched:** 15/12/2009
**Status:** Operational but may still be under commission. The CW beacon is on continuously and the transponders have been activated for some passes.
**Mode:** V/U FM voice
**Uplink:** 145.825 MHz 67.0Hz CTCSS, downlink 435.675 MHz
**Mode:** V/U linear (inverting)
**Uplink:** 145.925 – 145.975 MHz, Downlink: 435.765 – 435.715 MHz
**Mode:** V/U PacSat BBS
**Uplink:** 145.825 MHz 1k2 AFSK packet, Downlink: 435.675 MHz 1k2 AFSK packet
**Beacon:** 435.790 MHz CW
**http://www.camsat.cn**

## RS-series satellites

### RS-15 RADIO ROSTO (23439)

**Launched:** **26/12/1994**
**Status:** intermittent. The beacon only comes on when satellite is in sunlight, and is not on every pass.
**Mode:** -/H on/off carrier of 2-3 seconds
**Beacon:** 29.352 MHz

### RS-22 MOZHAYETS-4 (27939)

**Launched:** 27/9/2003
**Status:** Semi-operational. RS-22 sends CW telemetry in a format similar to previous RS-series satellites. During late 2009 RS-22 became intermittent and was silent during some passes.
**Mode:** -/U CW telemetry
**Beacon:** 435.352 MHz
**http://www.dk3wn.info/sat/afu/sat_rs22.shtml**

### RS-30 YUBILEINY (32953)

**Launched:** 23/5/2008
**Status:** Operational. Only the CW beacon has been heard over VK/ZL. Other transmission types are heard when it is in range of the control stations in Russia. It has been heard by AO-51 users when they share the same footprint.
**Mode:** -/U CW telemetry
**Beacon:** 435.315 MHz (primary), 435.215 MHz (secondary)
**http://www.dk3wn.info/sat/afu/sat_rs30.shtml**

### RS-38 UGATUSAT (35869)

**Launched:** 17/9/2009
**Status:** Operational. UGATUSAT identifies itself as RS-38. Built by the Ufa State Aviation Technical University in Russia, UGATUSAT is a 35 kg satellite that has an imaging system with a resolution of 50 m. I incorrectly reported this satellite as Tatiana-2 (RS-28) in the November column.
**Mode:** -/U CW telemetry
**Beacon:** 435.490 MHz

## Other satellites using amateur frequencies.

### ISS (25544)

**Launched:** 20/11/1998
**Status:** Operational. The International Space Station has an amateur radio station that operates in many modes. Ultimately it depends on the manned crew's activities. Voice, digital, and SSTV modes are used. Sometimes experimental modes are tried; one example was a 23 cm FM repeater uplink on 1269.650 MHz.
**Mode:** U/V crossband FM repeater.
**Uplink:** 437.800 MHz FM, Downlink 145.800 MHz
**Mode:** V/V Digital / APRS 1k2 AFSK FM
**Uplink:** 145.825 MHz, Downlink: 145.825 MHz
**Mode:** V/V FM Voice, SSTV
**Uplink:** (Region 1) 145.200 MHz, (Region 2/3) 144.490 MHz, Downlink: 145.800 MHz
**http://www.issfanclub.com/**
**http://www.rac.ca/ariss/**

### COMPASS-1 (32787)

**Launched:** 28/4/2008
**Status:** Operational. Compass-1 has a chirpy CW telemetry beacon that is normally sent every 3 minutes. If battery voltage is low it will send every 8 minutes. COMPASS-1 can be commanded by any amateur to send telemetry on demand using DTMF codes, though the satellite may not give a response each time. Every command will give a confirmation beep on 437.275 MHz.
**35## - request a test beacon CW
**36## - request a test packet 1k2 AFSK FM (UI-Frame)
**60## - request a housekeeping frame in 1k2 AFSK FM (KISS frame)
**Mode:** V/U DTMF command, 1k2 AFSK
**Command:** 145.980 MHz, Downlink 437.405 MHz
**Beacon:** 437.250 MHz CW telemetry
**http://www.cubesat.de**

### STARS (33498)

**Launched:** 23/1/2009
**Status:** Operational. STARS is two satellites tethered together. Both 'Mother' and 'Daughter' have CW and 1k2 AFSK packet telemetry on 70 cm. The CW beacon of 'Mother' is on continuously, but 'Daughter' is weaker and intermittent.
**Mode:** -/U FM 1k2 AFSK
**Mother 437.485 MHz, Daughter 437.465 MHz**
**Mode:** -/U CW
**Beacon:** Mother 437.305 MHz, Daughter: 437.273 MHz
**http://stars1.eng.kagawa-u.ac.jp/english/index.html**

### PRISM (33493)

**Launched:** 23/1/2009
**Status:** Operational. Following from the success of CO-57 and CO-58, the University of Tokyo built PRISM to carry a larger camera with a telephoto lens. The packet downlink may be only available over the command stations in Japan, though the CW beacon is on world-wide. PRISM also has an uplink channel but frequency and modulation details have not been published yet.
**Mode:** -/U 1k2 AFSK or 9k6 GMSK
**Downlink:** 437.425 MHz
**Mode** -/U CW
**Beacon:** 437.250 MHz
http://www.space.t.u-tokyo.ac.jp/prism/main-e.html

### KKS-1 (33499)

**Launched:** 23/1/2009
**Status:** Operational. KKS-1 transmits a series of messages on its CW beacon. Its mission is to demonstrate a laser ignition thruster and reaction wheels.
**Mode:** -/U CW message.
**Beacon:** 437.385 MHz
**http://www.kouku-k.ac.jp/~kks-1/kks-gs-top-e.htm**

### CASTOR (35694)

**Status:** Operational. CASTOR is a being used to study the Earth's upper atmosphere. It transmits a weak 1k2 AFSK packet signal. CASTOR's twin brother POLLUX was launched at the same time but the batteries failed on 12/9/2009. CASTOR and POLLUX are used to reflect lasers to determine their exact position and measure the drag induced by the density of the Earth's upper atmosphere.
**Mode:** -/V 1k2 AFSK
**Beacon:** 145.825 MHz
**https://goby.nrl.navy.mil/ANDE/Castor.html**

### SWISSCUBE (35932)

**Status:** Operational. Transmits CW telemetry with frames every 30 seconds. The tone quality of the transmitter is poor. Decoding software is available at their website.
**Mode:** -/U CW
**Beacon:** 437.505 MHz
**http://swisscube.epfl.ch**

**ITUpSAT (35935)**
**Status:** Operational. This Turkish Cubesat transmits a frame of CW every three minutes giving its name and callsign.
**Mode:** -/U CW
**Beacon:** 437.325 MHz

## Final pass

The end of 2009 has been a fruitful time. SO-67 is providing excellent signals and should be a popular satellite for the next few years. China's first amateur satellite HO-68 has just been launched and is under going commissioning. No doubt HO-68 will also prove to be popular during 2010. **ar**

## AMSAT-VK

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**Group site:**
**group.amsat-vk.org**

### About AMSAT-VK

AMSAT-VK is a group of Australian amateur radio operators who share a common interest in building, launching and communicating with each other through non-commercial Amateur Radio satellites. Many of our members also have an interest in other space based communications, including listening to and communicating with the International Space Station, Earth-Moon-Earth (EME), monitoring weather (WX) satellites and other spacecraft.

AMSAT-VK is the primary point of contact for those interested in becoming involved in amateur radio satellite operations. If you are interested in learning more about satellite operations or just wish to become a member of AMSAT-Australia, please see our website.

### AMSAT-VK monthly nets

**Australian National Satellite net**

The net takes place on the 2nd Tuesday of each month at 8.30 pm eastern time, that is 9.30 Z or 10.30 Z depending on daylight saving. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. The format also facilitates other aspects like making 'skeds' and for a general 'off-bird' chat. In addition to the EchoLink conference, the net will also be available via RF on the following repeaters and links.

**In New South Wales**
VK2RMP
Maddens Plains repeater on 146.850 MHz

VK2RIS
Saddleback repeater on 146.975 MHz

VK2RBT
Mt Boyne repeater on 146.675 MHz

**In Victoria**
VK3RTL Laverton, Melbourne, 438.600 MHz FM, - 5 MHz offset

**In South Australia**
VK5TRM, Loxton on 147.125 MHz
VK5RSC, Mt Terrible on 439.825 MHz
IRLP node 6278, Echolink node 399996

**In Tasmania**
VK7AX, Ulverstone on 147.425 MHz

**In the Northern Territory**
VK8MA Katherine 146.700 MHz FM

Operators may join the net via the above repeaters or by connecting to EchoLink on either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you are interested in carrying our net on your system, please contact Paul via email.

### Become involved

Amateur satellite operating is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started.

You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm.

These easy-to-use and popular FM satellites give hams national communications and handheld access into New Zealand at various times both day and night.

Should you wish to join AMSAT-VK, details are available on the web site or sign-up at our group site as above. Membership is free and you will be made very welcome.

# DX - NEWS & VIEWS.

**John Bazley VK4OQ**
E-Mail: john.bazley@bigpond.com

**A Happy New Year and let us hope that the rise in the Sunspot activity is here to stay for a few years, for it certainly has improved conditions particularly on 21 and 24 MHz.**

I will believe that it has happened when we can hear 28 MHz full of DX signals!

There is still a lack of understanding of propagation by some DXpeditions on the difference between W1 and W6 or Eastern Europe and Western Europe and VK6 and VK4 band openings.

Most BIG DXpeditions do have "Pilot Stations" who pass along information of missed band openings. Also there is an increasing use of the "Club Log Search designed by G7VJR" that gives data on all the bands being used by the DXpedition and times that stations from your part of the world have contacted the DXpedition.

This is an excellent "two way tool" that enables both you and the DXpeditioners to be aware of difficult openings.

## So to DX News.

There is no more information on the DXpedition to **Cocos Island (TI9)** originally planned, for February this year.

The **Chagos Island operation** by VQ9JC has been accepted for DXCC credit after being rejected as a shipboard operation. DXCC corresponded with the operator and determined it was and-based thereby satisfying the conditions of DXCC Rule 8.

JD1BNN and JF3MYU will be on **Ogasawara** from March 28th to March 31st and joined by three US operators, KG8CO allocated JD1BNJ, AC8W – JD1BNK and K8AQM – JD1BNM. The American operators will be there for two weeks. JF3MYU will focus on 30, 17 and 12 metres. For the Japanese operators QSLs via the bureau or direct. For the American operators please QSL via K8AQM.

Nick G3RWF will again be active as 5X1NH from **Fort Portal, Uganda**, approximately from January 21st to March 21st, QSL via G3RWF.

Fernando EA4BB has been active as Z21BB from **Harare, Zimbabwe** recently will be there for a couple of years. "For the time being I have only dipoles and delta loops for 10, 15 and 20". Mostly on CW he hopes to do more SSB when he has improved his antennas. QSL via W3HNK.

Vasil D2QMN is active from **Angola** until August. He operates on 20 metres through to 10 metres after 1700 Z during the week and at the weekends on 40, 30, 17 & 12 metres after 0600 Z. He is active on SSB/RTTY/PSK and requests for skeds are welcomed. d2qmn@yandex.ru QSL via RZ3EC.

Nick G4FAL plans to operate as VP2MCC from **Gingerbread Hill in St. Peters, Montserrat** during March. Exact dates are not known, but will include the British Commonwealth Contest, on March 13th and 14th. All QSOs with VP2MCC will be uploaded to LOTW. QSL via G4FAL.

J68JA from **Marigot Bay, St. Lucia**, will be operator John W5JON March 2nd to March 11th. John plans to be on 160-6 m including 60 m and will be single operator in the ARRL DX SSB contest. John will have an IC-7000, KL-400 amplifier, 350 watts, Alpha-Delta DX-LB and DX-EE dipoles, and a 6 m 3-element Yagi. XYL Cathy W5HAM "will be busy pool side." QSL to John's home call.

DL7JAN will be active as V88/DL7JAN from **Bandar Seri Begawan**, the capital city of **Brunei** (OC-088), from 22nd February to 3rd March. He plans to operate CW, SSB and RTTY on 160 to 10 metres. QSL via home call, direct or bureau.

Al McDonald ZL1UFB is back on **Pitcairn Island** since September and plans to be QRV as VP6AL again until March. QSLs sent to: Al McDonald, C/O P.D.C. Hahei, RD1, Whitianga, New Zealand, with a SAE and US$2. All direct requests will be answered upon his return to ZL next year. Bureau cards will not be answered!

Serge F6AUS will be active as FG/F6AUS and TO4D (in contest) from **La Desirade, Guadeloupe (NA-102)** until March. QSL to his home call.

The S21RC, S21S and S21D Bangladesh operation to AS-127, **St. Martin's Island** in the **Chittagong Region Group**, is set for February 21-25. The three ops have asked the government for S21DX as their callsign. St. Martin's is the only coral island belonging to Bangladesh. There is a lighthouse near where they will be camping and operating. There should be little QRN because there is no electricity or motor vehicles on the island. They expect to be running two stations, run by a 1 kW generator and a pair of 115 amp-hour batteries. QSL via EB7DX. Sponsors and funding are still being sought. Their web page is http://iota.s2dx.org/

*Continued at foot of facing page*

Tom W8TOM operating from St Pierre and Miquelon Islands.

Eric KV1J operating from St Pierre and Miquelon Islands.

# News from VK2

Tim Mills VK2ZTM vk2notes@arnsw.org.au

## New Year Greetings. Welcome to the year of celebrations.

The famous **Central Coast ARC Field Day** will be held at the the Wyong Race Course. Sunday February 28. During the day assessments will be conducted by **ARNSW**. Bookings are required through Brian VK2WBK on 0400 445 829.

On Saturday night – the 27th – there will be a centenary dinner hosted by the **CCARC** and **ARNSW**. Bookings are required, call Brian VK2WBK on 0400 445 829. Some of the displays at the field day include ARNSW, the Home Brew group, the T&T department and NSW WICEN. More details in the VK2WI news.

The morning VK2WI broadcast on the 28th will become a previous Saturday (27th) evening transmission at 7.30 pm. The **VK2BWI** Morse practice sessions on Thursdays, 2000 hours on 3550 kHz, conducted by Ross VK2ER at Orange resume early in February.

**NSW WICEN** will hold their AGM at the VK2WI site on Sunday February 7th at 1400 hours. Contact WICEN on 0408 397 217, operations@nsw.wicen.org.au or www.nsw.wicen.org.au They need starters for the committee.

Many clubs, resume meetings in February. **HADARC's** first informal meeting is on Tuesday the 9th and the monthly meeting on the 23rd - both at the Mt. Colah Community Centre. **Waverley ARS** will be conducting training and exams on the weekend of 13th and 14th February. **Mid South Coast ARC** will likely have their first quarterly meeting on Saturday the 13th.

The **Hunter Radio Group** will resume the Monday news on the 8th at 7.30 pm and have the first meeting for the year on Friday the 12th. **Summerland ARC** has an AGM scheduled for Sunday the 14th. Then a car boot sale on March 28th. They are seeking a site for the Evans Head repeater VK2REH. and are looking north west to Mt. Moonimba.

An early note for the diary – the **Oxley Region** ARC mid winter field day will be held over the June long weekend.

Down in the snow country the **Jindabyne ARG** have established VK's highest system at over 2000 metres. This repeater in on 438.450 MHz with 20 watts into a 5/8-wave antenna. It is expected to be followed about now with 2 metres on 146.875 MHz. The systems are at a ski patrol hut, reports Geoff VK2QM. Thanks have to go to the Perisher Blue Pty Ltd, the Ski Patrol and the Jindabyne group for their assistance.

**Fishers Ghost ARC** provided the amateur radio facilities to the Australian Jamboree.

By this month most clubs will have resumed their meetings their publicity officers are requested to make use of **VK2WI News** to inform your members and potential visitors of meetings. Email to news@arnsw.org.au with those details.

**Amateur Radio New South Wales** is moving into a celebration period as part of the 100 years of organised amateur radio in this country.

According to the records, a meeting of experimenters in the smoking room of the Hotel Australia in Sydney on the afternoon of the 11th March 1910 got the ball rolling.

*Continued on Page 55*

**Willis Island** has a new amateur radio operator: David VK9WBM is working at the Bureau of Meteorology station for the next six months. His station will include an IC-718 and Alinco DX-70. Activity is expected on HF as well as 6 metres. As David is there on a work assignment, he will only be active in his spare time and there will be no pre-arranged schedules. QSL via VK4DMC.

Mike VP2MPR, W1USN, will operate mainly SSB and PSK31 from **Montserrat** (NA-103) from February 28th to March 13th and Bob AA1M will operate mostly CW as VP2MPL from March 6th to March 11th. QSL via their home calls.

Bill N7OU and Bob W7YAQ are heading to **Tokelau (ZK3)** from February 17th to March 10th, which includes a multi-single effort in the ARRL DX CW Contest. "Tokelau is only accessible by boat and the exact dates may change a little", says Bill. The two will be in **Apia, Samoa** before sailing to ZK3 from February 10th to 16th and again afterwards from March 11th to 15th. 5W activity is expected during those two time frames. This will be a mostly CW effort with a little RTTY and SSB thrown in. They will be running 100 watts into verticals on 1.8 through 28 MHz. Callsigns are yet to be announced. QSL cards will go via their home calls.

February 9th to 25th are the dates for a low band DXpedition to **French Polynesia.** Team members include Phil FO8RZ (F5PHW), Jacques F6BEE, Nigel G3TXF and Gilles VE2TZT. Look for activity on all bands from 1.8 MHz through to 28 MHz, with a focus on 1.8 MHz and 3.5 MHz. They will also participate in the CQ World Wide WPX RTTY Contest and the ARRL CW DX Contest. Plans are to have two complete stations QRV simultaneously. They will be using a 160 metres inverted L in the ocean or on the beach, a pair of quarter wave verticals on 80 metres, verticals on 40, 30, 17 and 12 metres as well as a 5-band Spiderbeam. The team will also be using a Beverage or K9AY receiving antenna. No word yet on the callsign(s) but QSLs will go via G3TXF. The French Polynesia team has a web page, thanks to Laurent F1JKJ at www.fo2010.org

Good luck in the pile-ups until next month.

Special thanks to the authors of *The Daily DX (W3UR), 425 DX News (I1JQJ) and QRZ.DX* for information appearing in this month's DX News & Views.

For interested readers you can obtain from W3UR a free two-week trial of The Daily DX from www.dailydx.com/trial.htm

**ar**

Peter who recently operated from Dubai as A6/DL3YM.

# Amateur Radio Annual Index 2009

**Prepared by Don Jackson VK3OBB**


| TITLE | AUTHOR | ISSUE | PAGE |
|---|---|---|---|
| **ALARA** | | | |
| Catherine VK4VCH leads the Queensland trifecta in 29th ALARA contest | Aysha Venugopal VK5FASH | Nov | 37 |
| New ALARA President - Tina VK5TMC | Christine Taylor VK6CTY | Jul | 22 |
| **Contests** | | | |
| Contest Calendar for April - June 2009 | Phil Smeaton VK4BAA | Apr | 41 |
| Contest Calendar for June - August 2009 | Phil Smeaton VK4BAA | Jun | 41 |
| Contest Calendar for July - August 2009 | Phil Smeaton VK4BAA | Jul | 41 |
| Contest Calendar for August - September 2009 | Craig Edwards VK8PRX (ex VK5HRT) | Aug | 41 |
| Contest Calendar for September - October 2009 | Craig Edwards VK8PRX (ex VK5HRT) | Sep | 41 |
| Contest Calendar for October - November 2009 | Craig Edwards VK8PRX (ex VK5HRT) | Oct | 41 |
| Contest Calendar for November - December 2009 | Craig Edwards VK8PRX | Nov | 41 |
| Contest Calendar for December 2009 - January 2010 | Craig Edwards VK8ORX | Dec | 57 |
| 2009 ILLW - 441 Lighthouses and Lightships - and just one time ball, at Williamstown in VK3 | John Karr VK3FMPB | Oct | 33 |
| Amateur Radio Direction Finding (ARDF) - The Deadman's Flat Hageby | Bruce Paterson VK3TJN | Aug | 34 |
| ANARTS Contest ceases | Phil Smeaton VK4BAA | Apr | 43 |
| And an introductory few words | Craig Edwards VK5HRT | Jul | 41 |
| Contest Calendar for May 2009 - July 2009 | Phil Smeaton VK4BAA | May | 41 |
| Final words from outgoing editor | Phil Smeaton VK4BAA | Jul | 41 |
| International Lighthouse/ Lightship Weekend, August 2009 | Kevin Mulcahy VK3CE | Oct | 28 |
| John Moyle Memorial National Field Day - Reports | Various | May | 27 |
| Latest DXCC standings | Eddie DeYoung VK4AN | Oct | 46 |
| New contest - Australian Shires | Phil Smeaton VK4BAA | May | 43 |
| Remembrance Day Contest Report - Ipswich & District Radio Club | Mike Charteris VK4QS | Oct | 38 |
| Ross Hull Memorial VHF-UHF Contest January 2010 | John Martin VK3KM | Dec | 41 |
| The sad demise of the ANARTS RTTY Contest | Phil Smeaton VK4BAA | May | 41 |
| VK entries in CQ WPX SSB 2009 | Phil Smeaton VK4BAA | Jun | 41 |
| VK Shires Contest - Inaugural Event | Craig Edwards VK8PRX (ex VK5HRT) | Aug | 41 |
| **Contest Results** | | | |
| 2008 IARU HF World Championship Results (VK stations only) | Phil Smeaton VK4BAA | Apr | 41 |
| 2008 Island on the Air Results | Phil Smeaton VK4BAA | Apr | 41 |
| 2009 CQWW WPX SSB Contest claimed scores | Craig Edwards VK5HRT | Jul | 43 |
| 29th ALARA Contest | Craig Edwards VK8PRX (ex VK5HRT) | Nov | 42 |
| BERU 2009 Results | Craig Edwards VK5HRT | Jul | 43 |
| BERU Comments and claimed scores | Phil Smeaton VK4BAA | May | 42 |
| CQ WPX CW Results for 2008 | Phil Smeaton VK4BAA | Jun | 42 |
| CQWW CW 2008 Contest | Phil Smeaton VK4BAA | Jan/ Feb | 48 |
| CQWW WPX SSB 2008 | Phil Smeaton VK4BAA | Mar | 40 |
| Harry Angel Sprint 2008 | Phil Smeaton VK4BAA | Mar | 42 |
| Harry Angel Sprint 2009 Results | Craig Edwards VK8PRX (ex VK5HRT) | Oct | 43 |
| IARU 2008 - Claimed Scores | Phil Smeaton VK4BAA | Apr | 42 |
| JIDX 2008 Phone Results | Craig Edwards VK5HRT | Jul | 43 |
| John Moyle Memorial Field Day 2009 Results | Craig Edwards VK5HRT | Jul | 42 |
| John Moyle Memorial National Field Day 2009 - Results | Phil Smeaton VK4BAA | Jun | 43 |
| Oceania DX Contest - 2008 - Results from 783 Logs! | Craig Edwards VK5HRT | Sep | 41 |
| QRP Hours Contest 2008 | Phil Smeaton VK4BAA | Mar | 42 |
| QRP Hours Contest 2009 Results | Craig Edwards VK8PRX (ex VK5HRT) | Oct | 43 |
| Ross Hull Memorial VHF-UHF Contest 2009: Results | John Martin VK3KM | Apr | 47 |
| Russian DX Contest 2008 | Phil Smeaton VK4BAA | Jan/ Feb | 47 |
| Russian DX Contest claimed scores | Craig Edwards VK5HRT | Jul | 43 |
| Spring VHF-UHF Field Day 2008 | John Martin VK3KM | Jan/ Feb | 51 |
| Summer Field Day 2009 - Results | John Martin VK3KM | Apr | 43 |
| The 2009 Remembrance Day Contest Results | Peter Harding VK4OD | Dec | 38 |
| VK/Tasman 80 m and 16 m Contest Results | Craig Edwards VK8PRX (ex VK5HRT) | Oct | 42 |
| Winter VHF/UHF Field Day 2009 Results | Craig Edwards VK8PRX (ex VK5HRT) | Sep | 46 |
| Worked all Europe DB Contest 2008 - How the VKs went | Craig Edwards VK8PRX | Oct | 43 |
| WPX scores for 2008 - Addendum | Phil Smeaton VK4BAA | May | 42 |
| **Contest rules** | | | |
| 2009 Remembrance Day Contest Rules | Peter Harding VK4OD | Aug | 43 |
| ALARA Contest August 29-30 | Aysha Venugopal VK5FASH | Aug | 42 |
| Harry Angel Sprint 2009 | Phil Smeaton VK4BAA | Mar | 42 |
| Jack Files Contest 2009 | Craig Edwards VK5HRT | Jul | 43 |
| John Moyle Field Day Contest 2009 | Denis Johnstone VK4AE/VK3ZUX | Jan/ Feb | 49 |

| TITLE | AUTHOR | ISSUE | PAGE |
|---|---|---|---|
| Mongolian DX Contest 2009 | Craig Edwards VK8PRX (ex VK5HRT) | Nov | 42 |
| Oceania DX Contest - 1009 Rules | Craig Edwards VK5HRT | Sep | 43 |
| QRP Hours Contest 2009 | Phil Smeaton VK4BAA | Mar | 41 |
| Rules for the Australian Shires Contest | Phil Smeaton VK4BAA | May | 44 |
| Spring VHF-UHF Field Day 2009 - Rules | John Martin VK3KM | Oct | 43 |
| Summer VHF-UHF Field Day 2010 - Rules | John Martin VK3KM | Dec | 43 |
| The Westlakes Cup 2009 - Rules | Craig Edwards VK5HRT | Sep | 45 |
| The Westlakes Cup 19 September 2009 | Westlakes ARC VK2ATZ | Aug | 46 |
| WPX Contest 2009 - Rule changes | Phil Smeaton VK4BAA | Jan/ Feb | 48 |

## Corrections

| | | | |
|---|---|---|---|
| A transmission line balance test meter | Lloyd Butler VK5BR | Aug | 5 |
| AM detector, P. 11, May 2009 | Felix Scerri VK4FUQ | Jun | 12 |
| Dipole lengths, October 2009 - correction | Ross Pittard VK3CE | Nov | 27 |
| Magnetic Loop Antenna | Leigh Turner VK5KLT | Jun | 12 |
| Off centre Fed dipole | Peter Freeman VK3PF | Jun | 12 |

## Cover Images

| | | |
|---|---|---|
| Green Technology in a wide brown land | Don Marshall VK4AMA | Jan/ Feb |
| Icom 92-AD | Peter Freeman VK3KAI | Mar |
| Joe VK7JG with high power LED optical transmitter | Alvin de Quincy VK7NDQ | Apr |
| Icom IC-7200 Transceiver | Bill Roper VK3BR | May |
| Phil Harman VK6APH presents Software Defined Radio at GippsTech | Robert Broomhead VK3DN | Jun |
| Tina VK5TMC | Christine VK5CTY | Jul |
| University of Tasmania Mt. Pleasant Observatory | Dr Jim Lovell, UTAS. | Aug |
| Working the High Point of Australia - Mt Kosciuszko | Compton Allen VK2HRX | Sep |
| A Scout having fun with a hand-held | Robert Broomhead VK3DN | Oct |
| The Icom IC-7600 | Bill Roper VK3BR | Nov |
| Simple test equipment collage | Ross Pittard VK3CE | Dec |

## Foundation Corner

| | | | |
|---|---|---|---|
| The Balun | Ross Pittard VK3CE | Nov | 20 |
| The half wave dipole | Ross Pittard VK3CE | Oct | 10 |
| The two metre J-pole | Ross Pittard VK3CE | Sep | 18 |
| Tools and Test equipment | Ross Pittard VK3CE | Dec | 62 |

## General

| | | | |
|---|---|---|---|
| 2009 WIA AGM and Open Forum | Michael Owen VK3KI | Jun | 24 |
| 90th Anniversary of radio Communications between the UK and Australia | Edwin Lowe VK2VEL | May | 40 |
| A call for historical articles | Peter Wolfenden VK3RV | Aug | 4 |
| A ghost town called eighty - Mentoring on air may just be the answer | Michael J Charteris VK4QS | Oct | 12 |
| A Wonderful Old Timer - Mavis Stafford VK3KS | Jim Linton VK3PC | Jul | 23 |
| A wonderful Old Timer - Mavis Stafford VK5KS | Jim Linton VK3PC | Jul | IFC |
| About the WIA Centenary | WIA Board of Directors | Oct | 8 |
| Amateur Radio 1948 | John K Carter (ex VK5LA) | Aug | 18 |
| Amateur Radio and Emergency and Community Services | Phil Wait VK2DKN | Jul | 3 |
| Amateur Radio Wiki: an introduction | Tim Roberts VK4YEM | Apr | 18 |
| An echo of 'Echoes of Apollo': the 'SSB Fun event" (image IBC | Doug McArthur VK3UM | Aug | 24 |
| ARK's Academy | John Fisher VK3ARK | Aug | 20 |
| Australian Scout Jamboree AJ2010 | Not recorded | Dec | 37 |
| Birdsville area emergency - Amateur Radio raises the alarm | Richard Nielsen VK2LET | Nov | 19 |
| Building your own website | Rob Norman VK5SW | Oct | 53 |
| Buying second hand equipment | Jim Linton VK3PC | Jan/ Feb | 13 |
| Call signs - again | Michael Owen VK3KI | Jun | 3 |
| Creating the WIA Commemorative Logo | WIA Board of Directors | Oct | 8 |
| Currie Lighthouse, ILLW, King Island | Glenn Alford VK3CAM | Jul | 28 |
| Echoes of Apollo - EME on three milliwatts! (image IBC) | Rex Moncur VK7MO & Justin Giles-Clark VK7TW | Aug | 22 |
| Echoes of Apollo - the genesis | Robert Brand | Aug | 4 |
| Echoes of Apollo in VK5 | Chris Skeer VK5MC | Aug | 53 |
| Fires out but more to do | Jim Linton VK3PC | May | 14 |
| Flyaway unit on 10 GHz, or adventures on mountain tops | Jack Swart VK2TRF | Jun | 9 |
| GippsTech - "Special Edition" and the WIA AGM activities | Peter Freeman VK3KAI | Jun | 26 |
| Horkheimer Prize 2010 | Not recorded | Dec | 16 |
| ICOM sales generate hefty bushfire donation | ICOM (Australia) Pty Ltd | May | 14 |
| Jamboree On The Air (JOTA) | Bob Bristow VK6POP | Oct | 22 |
| JARL Ham Fair - images from | Jim Linton VK3PC | Nov | IBC |
| JARL Ham Fair is a top event | Jim Linton VK3PC | Nov | 28 |
| Launching the WIA Centenary | Michael Owen VK3KI | Oct | 1 |
| Maatsuyker Island IOTA OC-233 - and a "face to face net" | Roger Nichols VK7ARN | Jul | 21 |
| New Arrangements for the management of Amateur call signs | Michael Owen VK3KI | Mar | 19 |
| Peter Freeman VK3KAI awarded G A Taylor Medal | Michael Owen VK3KI | Jun | IFC, 25 |
| Power generation - 1919 versus 2009 | Peter Wolfenden VK3RV | Oct | 15 |
| Queensland's youngest Foundation Licensee: - Nicholas O'Sullivan VK4FNIC | Shaun O' Sullivan VK4FY & O'Sullivan family | Jun | 11 |
| RECOM - Australia's quiet achiever in emergency communications | Jim Linton VK3PC | Apr | 27 |
| Reflections on the Ingham flood of 2009 | Felix Scerri VK4FUQ | Apr | 26 |
| SERG and the Mount Gambier Legends of the Lakes Hill Climb | Charles Prime VK5XCP | May | 39 |
| Sods Law | R. Johnson VK5ZRJ | Sep | 26 |

| TITLE | AUTHOR | ISSUE | PAGE |
|---|---|---|---|
| Steam radio goes mobile (Scouts National Radio Camp, Gilwell Park 2009 | Arthur Greaves VK3FBEE | Sep | 40 |
| Telegraph Codes in Australia | John Alcorn VK2JWA | Aug | 19 |
| The Currie Lighthouse (images from ILLW) | Glenn Alford VK3CAM | Jul | IBC |
| The IARU Region Conference | Michael Owen VK3KI | Nov | 3 |
| The increasing importance of the regional organisations | Michael Owen VK3KI (WIA Comment) | Aug | 3 |
| The tale of a valve | Christine Taylor VK5CTY | Jul | 45 |
| The WIA and Call Signs | Michael Owen VK3KI | Mar | 3 |
| Tony Hutchison receives Chris Jones Award | Michael Owen VK3KI | Jun | IBC, 25 |
| VK9 Call signs - discussion - WIA Comment | Michael Owen VK3KI | Apr | 3 |
| WIA announces 2008/2009 Awards | Michael Owen VK3KI | Jun | 24 |
| World Amateur Radio Day 18 April 2009 | Hans Zimmermann F5VKP/HB9AQS | Apr | 47 |
| World-leading solar power technology in outback Queensland | Don Marshall VK4AMA | Jan/ Feb | 27 |

## General operating

| | | | |
|---|---|---|---|
| A 1296 MHz saga - two years, seven months and 90 seconds | Michael Coleman VK3KH and Ian Cowan VK1BG | Jul | 39 |
| HF Holiday - working from A35 - Tonga | Dr Stephen Warrillow VK3SN | Nov | 34 |
| The VK9NI Norfolk Island Dxpedition 2009 | Alan Mason VK2GR & Tommy Horozakis VK2IR | Dec | 17 |
| VK2HRX/p Mt Kosciusko summit, Easter 2009 | Compton Allen VK2HRX | Sep | 27 |
| VK7 moves closer to VK0 | Roger Nichols VK7ARN | Nov | 40 |
| What do some amateur radio operators do in their spare time? Operate, of course | Arthur Greaves VK3FBEE | May | 15 |

## Grid square standings

| | | | |
|---|---|---|---|
| Standings as at 14 February 2009 | Guy Fletcher VK2KU | Apr | 40 |
| Standings as at 12th May 2006 | Guy Fletcher VK2KU | Jun | 40 |
| Standings as at 4th August 2006 | Guy Fletcher VK2KU | Sept | 40 |
| Standings as at 16 October 2009 | Guy Fletcher VK2KU | Dec | 12 |

## Index

| | | | |
|---|---|---|---|
| Amateur Radio Index 2008 | Don Jackson VK3DBB | Jan/ Feb | 57 |

## Over to You

| | | | |
|---|---|---|---|
| A real amateur, or 'Necessity is the Doctor of Communications Invention' | Rex Newsome VK4LR | Sep | 39 |
| Amateur Radio - A diverse hobby | Chris Simkin VK2VGA | Jun | 12 |
| Amateur Radio and Sci Fi | David Pilley VK2AYD | Apr | 21 |
| Bouquet for GippsTech - Special Edition | Kevin B G Luxford VK3DAP, ZL2DAP | Jul | 53 |
| Global Ham Spirit | Peter VY0PW (ex VK8PW, ex VE8PW) | Apr | 21 |
| How to report Pirates to ACMA | Alan Major (ACMA) | Jan/ Feb | 46 |

| TITLE | AUTHOR | ISSUE | PAGE |
|---|---|---|---|
| J-Pole, September 2008 | Garth Jenkinson VK3BBK | Nov | 32 |
| Keep your books | Brad Booth VK4CDL/ VK2BJB | Sep | 38 |
| Point Cook Signals School Course S1 and S2 | J W Shield VK6SX | Jul | 38 |
| Portable with Power Pack | Dr Stephen Warrillow VK3SN | Oct | 51 |
| Praise from UK | Roger Wheeler G3MGW | Apr | 21 |
| re Silent Key - Alan Peake VK2ADB | Ian Beeby G8OGJ (formerly VK5ZEM) | Jul | 10 |

## Reviews - Books

| | | | |
|---|---|---|---|
| Amateur Radio Gives You Two Million Friends (eBook) | Al Shawsmith ex VK4SS | Dec | 19 |
| Ham Radio's Technical Culture | Justin Giles-Clark VK7TW | Apr | 20 |
| Microwave Projects 2 | Peter Freeman VK3KAI | Jun | 53 |
| The ARRL Satellite Handbook | David Giles VK5DG | Aug | 48 |

## Reviews - Equipment

| | | | |
|---|---|---|---|
| "Handheld with the lot" the IC-922AD | Peter Freeman VK3KAI | Mar | 27 |
| Assembling and Operating the Elecraft K3 Transceiver | Craig Meagher VK2LCD | Mar | 6 |
| The Icom IC-7200 HF and 6 m 100 watt transceiver | Bill Roper VK3BR & Ron Fisher VK3OM | May | 22 |
| The Icom IC-7600 HF - 6 m all mode transceiver | Bill Roper VK3BR & Ron Fisher VK3OM | Nov | 22 |
| The Yaesu VX-8R | Greg Williams VK3VTG & Ian Black VK3FFLY | Oct | 23 |

## Silent Keys

| | | | |
|---|---|---|---|
| Alan Peake VK2ADB | Bill Steptoe VK2ZZF and members, SMARC | May | 51 |
| Bernie Burgess VK4IB | Kevin Burgess VK7BK | Aug | 15 |
| Bill Sadler VK3AMH | Murray Sadler | Jul | 24 |
| Col Ferguson VK5CJ (RAOTC 305), Mount Gambier | Ray Deane VK5RK | Nov | 51 |
| David Couch VK6WT (RSARS1973) | Ron Vaughan VK7RV & Alan Gibbs VK6PG | Nov | 51 |
| David Rankin VK3QV/9V1RH - SK | Gerard Rankin VK6ZQV | May | 38 |
| Doug Courtney VK2AUC | Tim Mills VK2ZTM | Nov | 31 |
| Francis Michael (Mick) Barrow Paget VK6FP | Not recorded | Mar | 54 |
| Ian Laurence Tinney VK4KAD | Dougal Johnston VK4EKA | Jul | 53 |
| John Serino VK7UJ | Richard Rogers VK7RO | Aug | 15 |
| Len Mostert VK3LM, VK3UH (Formerly VK3DLM) | Peter Little VK3TT | Apr | 49 |
| Leon "Durk" Durkin VK7JP | Ken VK7KH and Winston VK7EM | Jan/ Feb | 37 |
| Peter Page VK2APP | David Thompson VK2BOT & John Eyles VK2YW | Mar | 54 |
| Richard (Dick) BL Adams VK3LN | Carl Schlink VK3EMF | Sep | 26 |
| Sjoerd Jongens (Sojo) - VK7ASJ - formerly VK7ZSJ/ VK0SJ/ZL5BA | Tony Maggs AAD, Alan VK7KAY, Harvey VK7HK & Greenpeace International | Mar | 38 |
| Stan Sonter VK4HEL | Bruce Smith VK2VA | Apr | 21 |

| TITLE | AUTHOR | ISSUE | PAGE |
|---|---|---|---|
| Trevor Spargo VK7TS | Bill VK7KBG | Dec | 54 |
| William (Bill) Douglas Christie VK6NWD | Rob VK6PO | Apr | 37 |

## Technical - Antennas

| | | | |
|---|---|---|---|
| A case of simpler being better (and easier) | Felix Scerri VK4FUQ | Aug | 25 |
| A handy portable mast support | Anthony Rogers VK3JIA | Apr | 5 |
| A simple solution to an expensive problem | John Sutcliffe VK3TCT | Apr | 14 |
| A transmission line balance test meter | Lloyd Butler VK5BR | Aug | 5 |
| An active loop receiving antenna for 1.8 - 4 MHz | Drew Diamond VK3XU | Jul | 11 |
| An active loop receiving antenna for 7 - 29 MHz | Drew Diamond VK3XU | May | 16 |
| An overview of the underestimated magnetic loop HF antenna | Leigh Turner VK3KLT | May | 5 |
| Line Balance Meter discussion | Rod Reynolds VK3AAR | Sep | 10 |
| Line Balance Meter discussion - response from author | Lloyd Butler VK5BR | Sep | 11 |
| My G5RV dedicated coupler for 80/40/20 metres | Wayne Pickard VK2ACY | Oct | 17 |
| My high performance multiband Delta Loop | Wayne Pickard VK2ACY | Jun | 6 |
| Off Centre Fed dipole (OCF) | Ron Cook VK3AFW | May | 26 |
| Some adventures in antennas | Peter Carter VK3AUO | Sep | 20 |
| Stationmaster for 40 metres | Paul Whitrow VK5FUZZ | Nov | 26 |
| T-Boom Yagis | Barry Miller VK3DJM. | Dec | 30 |
| The "Hentenna" for six metres | Andy Willis VK5LA | Jul | 25 |
| The Alligator Hat | Andrew Davis VK1DA | Jun | 5 |
| The two metre J-pole | Ross Pittard VK3CE | Sep | 18 |
| Understanding and building the OCF dipole antenna | Ron Bertrand VK2DQ | Jan/ Feb | 15 |
| Understanding and testing choke coax baluns | Paul McMahon VK3DIP | Nov | 9 |

## Technical - General

| | | | |
|---|---|---|---|
| A repeater over-timer | Keith Gooley VK5OQ | Nov | 16 |
| A solar powered ham station | Rob Norman VK5SW | Jun | 22 |
| A surface mount component soldering aid | Jim Tregallas VK5JST | Nov | 14 |
| A useful up-converter for the HP-8922S | Peter Whellum VK5ZPG & Mike O'Ryan VK4YNG | Mar | 12 |
| A VK3RX short story - RFI. | John Morrissey VK3ZRX | Jun | 53 |
| A VK3ZRX short story - Dangerous capacitors | John Morrissey VK3ZRX | May | 21 |
| Building microphone preamplifier circuitry and making it work properly in an RF "hot" environment | Felix Scerri VK4FUQ | Jan/ Feb | 5 |
| Charging around in the campervan | Michael Cortis VK2XRC | Apr | 15 |
| Cloud bounce optical communication | Rex Moncur VK7MO & Justin Giles-Clark VK7TW | Apr | 22 |
| IEC plugs and sockets - an EMI filter adapter | Lyle Whyatt VK5WL | Sep | 22 |
| Matching network software | Ron Sanders VK2WB | Mar | 20 |
| New era of digital amateur television begins | Peter Cossins VK3BFG and Jim Linton VK3PC | Aug | 28 |
| Paddy-board construction SMT style | Peter Whellum VK5ZPG | Dec | 7 |
| PC RFI reduction and sound card interference | Dale Hughes VK1DSH | Jul | 5 |
| Taming the SMPS beast | Ian Cowan VK1BG | Dec | 14 |
| Test tweezers for surface mount components | Jim Tregallas VK5JST | Nov | 15 |
| The Freq-Mite: a you-beaut enhancement for your QRP rig | Grant Maculing VK4JAZ | Mar | 26 |
| Twin channel remote control relays with PIN protection | Horrie Davis VK2LY | Dec | 5 |

## Technical - Instruments

| | | | |
|---|---|---|---|
| A manual controller for microwave step attenuators | Mike O'Ryan VK4YNQ | Apr | 6 |
| A simple sensitive power meter | Paul McMahon VK3DIP | Jun | 5 |
| A transmission line balance test meter | Lloyd Butler VK5BR | Aug | 5 |
| Dip oscillator helper | Lou Destafano VK3AQZ | Nov | 5 |
| Line Balance Meter discussion | Rod Reynolds VK3AAR | Sep | 10 |
| Line Balance Meter discussion - response from author | Lloyd Butler VK5BR | Sep | 11 |

## Technical - Receivers

| | | | |
|---|---|---|---|
| A simple high quality AM detector for general high fidelity listening of AM broadcast stations | Felix Scerri VK4FUQ | May | 11 |
| The HB10 Transceiver (Receiver) | Bruce Kidgell VK3BMK | Oct | 4 |

## Technical - Transceivers

| | | | |
|---|---|---|---|
| A 10 metre FM transceiver | Dale Hughes VK1DSH | Jan/ Feb | 7 |
| A complete 8MHz IF sysytem for USB, LSB and CW for a HF transceiver Part 1 | Peter Wathen VK3EPN | Dec | 20 |
| A phasing type transceiver for 144MHz - Part 1 | Dale Hughes VK1DSH | Aug | 8 |
| A phasing type transceiver for 144MHz - Part 2 | Dale Hughes VK1DSH | Sep | 5 |
| The HB10 Transceiver (Receiver) | Bruce Kidgell VK3BMK | Oct | 4 |

## Technical - Transmitters

| | | | |
|---|---|---|---|
| A 30 watt linear amplifier for two metres | Dale Hughes VK1DSH | Dec | 25 |
| A transverter for 2.4 GHZ | Andrew Davis VK1DA | Jul | 16 |
| Getting started on 1136 kHz | Drew Diamond VK3XU | Sep | 12 |

## WICEN

| | | | |
|---|---|---|---|
| What about WICEN? | Michael Owen VK3KI | Sep | 3 |
| WICEN at the Pyengana Equine Endurance Ride | Roger Nichols VK7ARN | Oct | 39 |
| WICEN past, present and possible future | Jim Linton VK3PC | May | 12 |

# News from VK6

**Keith Bainbridge VK6RK**

By now all the turkey will be gone, and we can all get down to chasing some contacts on the radio. Welcome to a New Year on the air, may it be DX full for us all. Conditions on HF have been improving and there is some life on the bands.

From Bob VK6POPcomes news from the **Scouts**.

The Scout Communications team held a successful fire sale at the Peter Hughes Scout Communications Centre at the end of October. We moved a lot of pre-loved equipment and components. The event proved to be a great social event for VK6 amateurs, with many people catching up with each other. Many thanks to all supporters, sellers and buyers who came and made the day a success.

During the JOTA weekend, the team ran a Foundation Amateur Radio Licence Course at the Waylen Bay Sea Scouts. Eight Scouts passed the assessment, making a total of eleven Scouts and a leader in that Group to hold an AR licence. The WA Scout Communications Team has put about 30 new young hams on air over the last 12 months, with more interest shown for 2010.

We are the happy recipients of a Lottery West grant, which will enable us to purchase a "tradie" trailer, which we will use to house our portable two metre repeater VK6RSH and also to carry equipment to events. 73 Bob VK6POP.

I was in Geraldton and, about 25 km south of the city, my wife asked me to stop and take some pictures. I was surprised to see a sign fixed to the fence with the legend 'VK6RGN 147.0 MHZ'. I have included the picture as I would dearly love to know the story behind this!

Now from the **Peel Amateur Radio Group** (PARG) and JOTA/JOTI 2009.

On 17 November there were a few early birds ready when the hall was opened at 10 am. The setting up of the radio equipment was relatively easy, as the club erected the antennas. JOTI took a little more to achieve, but achieve we did. Thirteen club members participated.

We had a HB9 receiving station contact us on EchoLink, a thrill indeed. We have received a QSL card from them (Switzerland). Our Treasurer Paul VK6LL enjoyed sending a return card. The Sunday was hot, perfect for communicating. The pack up was smooth. We have been thanked by the scouts and asked to run the event in 2010.

All who operated JOTA/JOTI had a great time this year.

For those of you wanting to get your licence or upgrade I have had a plea from Jo Dory to give **Ham College** a plug.

If you live in Western Australia, there is a place to go to get your Foundation, Standard and/or Advanced licences. The friendly team of licensed amateurs include lecturers Neil VK6BDO and Doug VK6DB.

The Foundation course is on a weekend,the exam held the following weekend. The Standard licence classes start in February, on a Tuesday night from 7 pm. The Advanced starts at the end of June, also on a Tuesday night.

The Foundation courses and examination dates are:

Jan 23/24, Jan 30 - School holidays.
March 20/21, March 27.
May 22/23, May 29.
July 24/25, July 31.
September 18/19, September 25. Exam during school holidays and long weekend.
November 20/21, November 27.

The Standard course runs from 9 February to 29 June.

The Advanced courseruns from 20 July to 7 December.

As usual the end dates are flexible. Contact: Huskn@wn.com.au or Jo_dory@live.com.au phone 95314207. From the **Hills (HARG) Group** next.

The Hills Amateur Radio Group is holding a swap meet on Saturday February 27, 2010 at their club rooms on the corner of Sanderson and Brady Roads, Lesmurdie. Clean out those excess items in the shack or find a great bargain. Doors open at 1 pm for sellers and 2 pm for buyers. There will also be a sausage sizzle and raffle. $5 for sellers, buyers $2.

Bob VK6KW reports on **VHF Group**.

Members of the WA VHF Group will construct SoftRock v9 SDR receivers to use as a platform for beacon monitors. The standard imported kits are combined with locally sourced hardware kits to produce a top class instrument. The assembly provides practice (and challenges) in surface mount techniques and help is available from experienced members. Our January meeting (4th Monday at 1200 Z) is planned as a 'troubleshooting and calibration workshop' for the constructors.

The Group has had to relocate temporarily. The current venue is 'Millers Bakehouse Museum' Baal St, Palmyra. The February venue TBA, will possibly be a Beacon Workshop.

Negotiations are in progress for re-siting the Dampier and Busselton beacons, and for a site in Carnarvon. No replacement site has been found in Augusta.

Meeting notices and minutes are sent by email or snail mail to our membership list, so if you are missing out send your subs and details to treasurer Fritz VK6UZ. **73 Bob VK6KW, Pres. WA VHF Group Inc.**

## The NCRG Update.

The club was very fortunate to have two well travelled German DXpeditioners over the CQ WW CW contest. Club member Bernd VK6AA reports.

Originally planned by Kevin VK6LW and myself as a low-profile two man multi-single effort, this changed after Dietmar DL3DXX and Tom DL5LYM joined us. We decided to give M/2 a go as NCRG's club station VK6ANC was designed for M/2 and this was the first time that a serious CQ WW M/2 effort had been made from 'Ham Heaven'. We went through a steep learning curve!! All of it is now used as a basis for getting VK6ANC ready for next year's contest season. We all had a blast despite (almost) rock-bottom conditions.

**Low points:**

Equipment failures. The K2, linear amplifier, rotator of 15 metre beam, automatic antenna switching.

160 m antenna, a quarter wave vertical, was a write off. Ten QSOs in ten hours. We could hear well but could not be heard.

Lack of sunspots, particularly not good when combined with long distances to major population centres.

**High points:**

Looks like the old Oceania record for M/2, which was set during the sun spot maximum is now history, something we would not

*continued on foot of facing page*

## VK2 News continues

from page 49

They formed an 'Institute' which was known as "The Wireless Institute of New South Wales" according to a listing of Wireless Calls, 1st October 1912.

At that time experimenters had three letter calls as did ships and land stations. The experimenters began with 'X'. There were 33 members of the 'WI of NSW'. In 1922 they had become registered as a NSW company on the 26th of May in the name of Wireless Institute of Australia New South Wales Division.

There were periods when that Company was known by other names, as in the late 1920s, when there was friction between the professional and Amateur members resulting for a while in separate groups.

In the last decade with the changes to the WIA structure, there was the need to reduce confusion between the two bodies.

Both NSW and Victoria, being Companies, opted to retain their Company structure. Each adopted an alternate trading name of 'Amateur Radio' and their State. So after 100 years there is a line that can be traced back to March 1910 – like the axe with four new handles and three new heads – it is still the same axe.

Now operating as a state-wide radio club, the former Division, affiliated with the National body – Amateur Radio New South Wales – looks forward to a year of celebration with all parties involved in the World's oldest national Amateur Radio Society.

On Saturday the 17th of April ARNSW will be conducting its AGM.

Agenda items and nominations will close 42 days before, on Saturday the 6th of March. Most members have opted to receive the paperwork by email. So everybody needs to ensure details are up to date. Send off an email to office@arnsw.org.au, a telephone call to the message bank on 02 9651 1490 or a letter to ARNSW, P.O. Box 6044, Dural Delivery Centre, NSW 2158. More details in the news bulletins.

The 'Barn' at the VK2WI site is nearing completion. There may soon be a formal opening. Much is plannedbut not confirmed for publication. We do know Station Engineer Mark VK2XOF constructed and installed a new beacon on 10 metres for VK2RSY: 20 watts CW on 28.262 MHz, a slight adjustment up from the old frequency to the correct assignment.

Also late last year, a new antenna was constructed for the VK2WI News transmissions on 40 metres. This one is more remote from the station building and has enabled the AM transmissions to be resumed on 7146 kHz. The former antenna, adjacent to the building is now for the SSB call back transceiver.

VK2WI conducted morning only news transmissions over the holiday period.

Reports from SWLs and those unable to call in can be left on the station phone's answering machine 02 9651 1489.

The historic tapes during the break were provided by the Kurrajong Radio Museum. Ian VK2ZIO will have these and other historic items on his display at the Wyong field day. Check out his stand.

You can also bring him military radio equipment to increase his museum. Even if some of it has been ratted, there may be parts left for the restoration of other items.

The next Trash & Treasure event at the Dural site will be on Sunday 28th March. At this time it is expected that the T&T portion within the 'Barn' will be in operation. No more lugging the goodies out of the old shed for display and purchase.

ARNSW undertakes the collection of Deceased Estates and surplus electronics, amateur radio equipment and similar. It all helps provide a service to those who still collect.

What we do not need is domestic electronics, computers, monitors, etc. Contact via the telephone numbers given earlier or an email to office@arnsw.org.au

Do not for get Australia's biggest amateur radio field day at Wyong, Sunday 28th February.

73, Tim VK2ZTM. **ar**

## VK6 News continues

have expected at all under the current circumstances.
40 metres was the star performer with the 40 metre only result exceeding the current Oceania 40 metre single band record. Using beverages for EU and NA, a first at VK6ANC. Great team effort although the four of us had never operated together before.
Kevin's German improved tremendously over the weekend. Thanks to the Northern Corridor Radio Group (NCRG www.ncrg.org.au) for the use of the VK6ANC station and facilities, as well as their fantastic support. 73 Bernd VK2IA/VK6AA."

The VK6AA CQWW CW contest team of Kevin VK6LW, Dietmar DL3DXX and Tom DL5LYM. On 'sleep duty' was Bernd VK6AA/VK2IA.

### Another event for your calendar:

The Northern Corridor Radio Group Inc. honoured one of its longest serving members Neil Penfold VK6NE at the Group's Christmas Party on Saturday 19th December. A large sign bearing the new official title for the Group's premises was unveiled in the presence of more than 30 members and guests. The new title is Neil Penfold State Amateur Radio Centre.

This recognises Neil's incredible contribution to Amateur Radio in Australia and globally with more than 40 years service to the WIA - at both federal and state levels - and more than 20 years service to the NCRG. It is a small token of the high esteem in which he is held by his Club-mates and many others who know him both as a man and as a tireless worker for the exceptional hobby he loves.

The NCRG will be holding the official opening of the Neil Penfold State Amateur Radio Centre itself, better known as Ham Heaven, on Sunday March 14 at 10 am. All amateurs are invited to come along for a sausage sizzle (free) and a look around. There will be a car boot sale operating at the same time and if you want to set up a stall or whatever, please contact our secretary John VK6JX.

The club station will be operational and you can chase some DX while visiting. We are very proud of our State Centre in Whiteman Park and will welcome you for the day's events, and maybe even as a member? Check out the club site at www.ncrg.org.au for more details.

That is it for this month, VY 73, Keith VK6RK. **ar**

# Geelong Amateur Radio Club – The GARC Event reports

Tony Collis VK3JGC

## UHF and Microwave Operations by club members

A presentation was given by two, David VK3QM and Chas VK3PY, of the three members of LUMEG, The Lara UHF and Microwave Experimenters Group, who in recent years have been very successful in WIA competitions in the UHF multi operator category.

David VK3QM

Chas VK3PY

The bands that the LUMEG group operate on are 2.4 GHz through to 24 GHz. The Microwave dishes used provide up to 33 dB gain, and with a 3 W input gives an ERP of 6 kW!; but the trade off is a 1 to 2 degree beamwidth, so the concept of calling CQ in contests is somewhat impractical with most of the contestants making prior arrangements.

From 2 to 10 GHz it is possible to buy, from the USA and Europe, modules to design and construct equipment to output on those frequencies; but at 24 GHz LUMEG is left very much to its own devices with DIY involving a lot of plumbing.

Operating at microwave frequencies is somewhat inefficient as you are working in the main in class A, 25% efficiency at best, with special attention being paid to voltage stability, as the units are normally battery powered for field work, and of course frequency stability. Also the absence of effective test equipment at these frequencies is a major obstacle.

At high elevations subject to strong winds it is also necessary to guy the supports for the dishes to minimise any movement. Pre amplifiers for terrestrial communication are influenced by ground thermal noise, but EME communications do not get the same level of interference.

Charlie VK3NX, the third member of LUMEG team, holds several Australian National records for EME communication - visit www.vk3nx.com for more information.

## Between a rock and a hard place

Caver Gerhard VK3HQ

Gerhard VK3HQ has been a caver, also known as spelunker, for over 35 years, initially in his native Germany and then anywhere in Australia with a limestone deposit. Gerhard showed the specialist cavers maps and equipment and a lot of photographs of the numerous caves he has explored over the years.

Caving was pioneered by Édouard-Alfred Martel who first explored the Gouffre de Padirac in France in 1889. He developed his own techniques based on ropes and metallic ladders.

For safety, hard hats are worn,with caver's primary light source mounted on the helmet to keep the hands free. Halogen lamps are the standard and white LEDs are the new competing technology. Many cavers carry two or more sources of light - one primary and backups in case the first fails. Carbide lamp systems, an older illumination, inspired by miner's equipment, are still used by some cavers.

Specialized ropes are used for descending or ascending pitches ("Single Rope Technique") or for protection. Knots commonly used in caving are the figure-of-eight- (or figure-of-nine-) loop, bowline, alpine butterfly, and Italian hitch. Ropes are usually rigged using bolts, slings, and karabiners. Cavers may use a flexible metal ladder.

All foreign matter, including human waste, is removed from caves. If long trips are to be made into a cave, containers for the removal of liquid and solid waste are included on the trip inventory.

Cavers map the underground fissures in the limestone rock in both length, which can be many kilometres, and depth which can be down several kilometres. They also provide geologists with information about fossils found such as ammonites so they can get a clearer picture of how the land mass and oceans have moved over millions of years.

Gerhard once found a shark's tooth in central Germany but has, as yet, found no evidence of the Sabre Toothed Possum in Australia.

## Spring VHF/UHF Field Day

VK3ALB/P braved the elements and ventured to Mt Leura, near Camperdown, see the story and picture on page 64

The GARC had three groups participating in the field day. The team from LUMEG, like the remaining two, found poor band conditions, bad weather, and low turn out to be the worst for many years. Their point score for multi operator and multiband use, to be confirmed, was 4444; significantly lower than in previous years.

The VK3ATL team camping on the Bellarine heights, operating on 2 m and 70 cm, similarly experienced both bad weather and a poor turn out

## GARC in the Park

The traditional GARC in the Park Christmas barbeque was held at the Rotunda, Eastern Beach in Geelong. The turn out was over 60 involving GARC members and their families and also a good representation from the GRES, our sister Radio Club in Geelong.

Barry VK3SY addressing the club

The event was organised by Jenni VK3FJEN, who also provided and presented some children's gifts. Barry VK3SY, gave an address and then presented President Dallas VK3DJ with a wooden plaque.

Dallas in turn presented to Vanessa VK3FUNY a GARC cap and T shirt in recognition of the work she puts in to the club as an "unsung hero". **ar**

Vanessa VK3FUNY being 'capped for the club' by Dallas VK3DJ

# Contests

Craig Edwards VK8PDX
vk8pdx@yahoo.com.au

## Contest Calendar for February—March 2010

| | | | |
|---|---|---|---|
| **February** | **13-14** | **CQ World Wide RTTY WPX** | **RTTY** |
| | 13-14 | Dutch PACC | CW/SSB |
| | 20-21 | ARRL International DX | CW |
| | 20-21 | Russian World Wide PSK | PSK |
| | **27** | **NZART Jock White Memorial Field Day** | **CW/SSB** |
| | 27-28 | European PSK Club World Wide | PSK |
| | 27-28 | UBA - Union of Belgian Amateur Radio | CW |
| | 27-28 | REF - Reseau des Emetteurs Francais | SSB |
| **March** | 6-7 | ARRL International DX | SSB |
| | 13-14 | RSGB Commonwealth | CW |
| | **20-21** | **John Moyle Memorial Field Day** | **CW/Phone/Digital** |
| | 20-21 | Russian DX | CW/SSB |
| | 20-22 | BARTG Spring RTTY | RTTY |
| | 20-21 (tbc) | European EME Contest (event 1) | CW/SSB |
| | 27-28 | CQ World Wide WPX | SSB |

**Hi everyone and welcome to 2010.**

The later stages of 2009 saw clear improvements in conditions and the DX slowly began to flow during many contests. This certainly raised spirits and gave hope for excellent propagation for 2010.

Mind you events such as the ARRL 10 m contest gave us all a humbling reality check and reminded us that the sun is only offering us a small slice of the DX pie.

A quick look at the contest calendar shows that February and March offers some fantastic events to delve into. You never quite know what to expect sometimes, even with the smaller contests.

In mid-December I had a quick look at a USA PSK contest which I only found out about at the last minute. It just happened to coincide with a long path opening to North America. Over 2½ hours I had a ball with a mini pile-up working 63 Americans on 20 m PSK.

Just goes to show that you do not have to compete seriously in the contests, sometimes just showing up can result in a lot of fun.

### CQ WPX RTTY Contest

For all those RTTY fans out there, the CQ WPX contest is for you.

We should see the band segments bursting at the seams with number 11's all over your screen. It is on February 13-14 and runs for 48 hours from 0000 UTC Saturday to 2359 UTC Sunday. It is open to the world and the objective is to contact as many amateurs and licensed prefixes as possible during the contest period. The event is on the 3.5, 7, 14, 21, and 28 MHz bands. Scroll down to the CQWW WPX SSB contest later in this month's column to see an explanation of how the different prefixes work. Better still see the CQ WPX RTTY Contest

## WIA Contest Website

**To keep up to date with all of the major Australian contests, including rules and results, do not forget to have a look at the WIA contest website at**

**www.wia.org.au/members/contests/about/**

website at www.cqwpxrtty.com/ for all the rules, past results, etc.

## ARRL International DX Contests

Are you chasing the Worked All States award? Do you want to see how the propagation is faring to North America?

This is your chance as both the CW and SSB contests are coming up and the object for us in Australia is to work as many Canadian provinces and USA states (not KL7 or KH6) as possible.

The CW contest is on February 20-21 and the SSB version is on March 6-7. They run for 48 hours from 0000 UTC Saturday to 2400 UTC Sunday on all non-WARC HF bands. The exchange we give out is an RS(T) and power, this is a number indicating approximate transmitter output power.

You will receive an exchange from the VE/W station in the form of RS(T) and Canadian province/US state. If this is something you would like to be involved with, visit www.arrl.org/contests/rules/2010/intldx.html for a complete set of rules.

## John Moyle Field Day Contest

The history, past results and current rules are available on the WIA contest website (see previous page).

**Presented by Denis Johnstone (VK4AE/VK3ZUX)**

**Date: 20 - 21 March, 2010**

**Time**

**0100 UTC Saturday - 0059 UTC Sunday**

## Overview

1. The aim is to encourage and provide familiarisation with portable operation, and provide training for emergency situations. The rules are therefore designed to encourage field operation.
2. The contest takes place on the third full weekend in March each year, and runs from 0100 UTC Saturday to 0059 UTC Sunday, 20-21 March 2010.
3. The contest is open to all VK, ZL and P2 stations. Other stations are welcome to participate, but can only claim points for contacts with VK, ZL and P2 stations.
4. Single operator portable entries shall consist of ONE choice from each of the following (e.g. 6 hour, portable, phone, VHF/UHF):

a. 24 or 6 hour;

b. Phone, CW, Digital or All modes;

c. HF, VHF/UHF or All Bands.

5. Multi-operator portable entries shall consist of ONE choice from each of the following (e.g. 24 hour, portable, phone, VHF/UHF):

a. 24 or 6 hour;

b. Phone, CW, Digital or All modes;

c. HF, VHF/UHF or All Bands.

6. Home and SWL operator entries may only be in either the 24 hour or 6 hour, and only all modes, all bands.

## Scoring

7. Portable HF stations shall score 2 points per QSO. CW only contacts to score 4 points per QSO for contacts with either home or portable stations. On VHF/UHF for portable stations Digital Modes score at the same rate as Phone and CW only scores at twice the rate of a Phone contact.
8. Portable stations shall score the following on 6 m:

a. 0-49 km, 2 points per QSO;

b. 50-99 km, 5 points per QSO;

c. 100-149 km 10 points per QSO;

d. 150-299 km 20 points per QSO;

e. 300-499 km 30 points per QSO;

f. 500 km and greater, 2 points per QSO.

9. Portable stations shall score the following on 144 MHz and higher:

a. 0 to 49 km, 2 points per QSO;

b. 50 to 99 km, 5 points per QSO;

c. 100 to 149 km, 10 points per QSO;

d. 150 to 300 km, 20 points per QSO.

e. 300 km and greater, 30 points per QSO.

10. For each VHF/UHF QSO where more than 2 points is claimed, either the latitude and longitude of the station contacted or other satisfactory proof of distance such as the 6-figure Maidenhead Locator must be supplied.
11. Home stations shall score:

a. Two points per QSO with each portable station.

b. One point per QSO with other home stations.

Log Submission

12. For each contact: UTC time, frequency, station worked, RST/serial numbers sent/received and claimed score. (VHF and above location of other station and distance showing the Lat/Long or Maidenhead Locator to 6 figures for the station worked.)
13. Logs must be accompanied by a summary sheet showing: call sign, name, mailing address, section entered, number of contacts, claimed score, location of the station during the contest, and equipment used, and a signed declaration stating "*I hereby declare that this station was operated in accordance with the rules and spirit of the contest and that the contest manager's decision will be accepted as final*". For multi-operator stations, the names and call signs (legible) of all operators must be listed.
14. The Email address for this year's JMMFD contest should be setup a few days before the contest, and I would suggest to those that will be sending in your Logs electronically, to send in a test email with the words "TEST JMMFD 2010", in the subject line and also set the "READ REQUEST RECEIPT" flag. Your call sign can then be added into the database for this year's contest. When actually submitting your log, if you do not receive an e-mail acknowledging receipt, then the log has not been received.
15. Paper logs may be posted to "John Moyle Contest Manager, 27 Laguna Ave, Kirwan 4817 QLD". Alternatively, logs may be e-mailed jmfd2010@wia.org.au, vk4ae@wia.org.au or to vk4ae@hotmail.com, or snail mailed via the WIA Contest Manager, JMMFD, P.O. Box 2042 Bayswater, VIC 3153.
16. The following formats are acceptable: Microsoft Excel or Word, ASCII text or electronic log programs such as VK Contest Log (VKCL). Logs sent by disc or e-mail must include a summary sheet and declaration, but the operator's name (legible) is acceptable in lieu of a signature. Logs must be postmarked no later than 23 April 2010.

## Certificates and Trophy

17. At the discretion of the Contest Manager, certificates will be awarded to the winners of each portable section. Additional certificates may be awarded where operation merits it. Note that entrants in a 24 hour section are ineligible for awards in a 6 hour section.
18. The Australian portable station, with the highest overall score will be awarded the President's Cup, a perpetual trophy held at the Executive Office, and will receive an individually inscribed wall plaque as permanent recognition.

Disqualification

19. General WIA contest disqualification criteria, as published in Amateur Radio from time to time, applies to entries in this contest. Logs which are illegible or excessively untidy are also liable to be disqualified.

## Definitions

20. A portable station comprises field equipment operating from a power source, e.g. batteries, portable generator, solar power, wind power, independent of any permanent facilities, which is not the normal location of any amateur station.
21. All equipment comprising the portable station must be located within an 800 m diameter circle.
22. A single operator station is where one person performs all operating, logging, and spotting functions.
23. A single operator may only use a call-sign of which he/she is the official holder. A single operator may not use a call-sign belonging to any group, club or organisation for which he/she is a sponsor except as part of a multi-operator entry.
24. A multi-operator station is where more

than one person operates, checks for duplicates, keeps the log, performs spotting, etc.

25. A multi-operator station may use only one call sign during the contest.
26. Multi-operator stations may only use one transmitter on each band at any one time, regardless of the mode in use.
27. Multi-operator stations must use a separate log for each band.
28. Logs submitted electronically can use a separate Excel worksheet for each band linked to a summary sheet. A typical example is shown at http://www.wia.org.au/contests which can be copied and adapted for the individual use of either a single or multi operator station.
29. A station operated by a club, group, or organisation will be considered to be multi-operator by default.
30. None of the portable field equipment may be erected on the site earlier than 28 hours before the beginning of the contest.
31. Single operator stations may receive moderate assistance prior to and during the contest, except for operating, logging and spotting. The practice of clubs or groups providing massive logistic support to a single operator is, however, totally against the spirit of the contest. Offenders will be disqualified, and at the discretion of the manager, may be banned from further participation in the contest for a period of up to three years.
32. Phone includes SSB, AM and FM.
33. CW includes CW hand or computer generated. Fully automatic operation is not permitted. CW contacts will score 4 points for HF and double points for VHF & UHF contacts.
34. Digital modes such as PSK31, RTTY, and packet may be used in the contest, but if they are, they shall be classed as Digital. Other modes such as ATV may be used and will be classed as Digital for scoring. Digital contacts will score points at the same rate as Phone.
35. All amateur bands may be used except 10, 18 and 24 MHz. VHF/UHF means all amateur bands above 30 MHz. Note: On 50 MHz, the region below 50.150 has been declared a contest free zone, and contest CQs and exchanges may only take place above this frequency. Stations violating this rule will be disqualified.
36. Cross-band, cross-mode and contacts made via repeaters or satellites are not permitted for contest credit. However, repeaters may be used to arrange a contact on another frequency where a repeater is not used for the contact.
37. Stations may make repeat contacts and claim full points for each one. For this purpose, the contest is divided into eight consecutive three-hour blocks: 0100-0359, 0400-0659, 0700-0959, 1000-1259, 1300-1559, 1600-1859, 1900-2159, 2200-0059 UTC. If you work a station at 0359 UTC a repeat contact may be made after the start of a new block providing they are not consecutive, or are separated by at least five minutes, since the previous valid contact with that station on the same band and mode.
38. Stations must exchange ciphers comprising RS(T) plus a 3 digit number commencing at 001 and incrementing by one for each contact.
39. Portable stations shall add the letter "P" to their own cipher, e.g. 59001P.
40. Multi-operator stations are to commence numbering on each band with 001.
39. Receiving stations must record the ciphers sent by both stations being logged. QSO points will be on the same basis as for Home Stations, unless the receiving station is portable.
41. The practice of commencing operation and later selecting the most profitable operational period within the allocated contest times is not in the spirit of the contest, and shall result in disqualification. The period of operation commences with the first contact on any band or mode, and finishes either 6 or 24 hours later.

## Jock White Memorial Field Day

This annual contest is named to honour Jock White ZL2GX, NZART Contest and Awards Manager for over 40 years, for the service that he gave to NZART during that time.

Amateur radio operators in Australia would look to work the New Zealand contest participants in both CW and SSB on the 80 m and 40 m bands during the times of 0200-1100 UTC and 1700-2400 UTC on Saturday February 27.

I am sure our neighbours across the pond would appreciate any VKs joining in and giving an exchange to boost their points tally.

Particularly as we would like the ZLs to give us a shout during the John Moyle Memorial Field Day just a few weeks later. Full rules are available at www.nzart.org.nz/contests/rules.html

## RSGB 73rd Commonwealth Contest 2010

The Commonwealth Contest promotes contacts between stations in the Commonwealth and Mandated Territories.

This is a great chance to work some DX with operation allowed on the 80 m, 40 m, 20 m, 15 m and 10 m bands in CW mode only from 1000-1000 UTC on March 13-14. The exchange is simply RST plus sequential serial number.

The full set of rules is at www.rsgbcc.org/hf/rules/2010/rberu.shtml and a vast amount of background information, statistics and photographs related to the Commonwealth Contest may be found on G3PJT's www.beru.org.uk website.

## The CQ World Wide WPX SSB

The CQ World Wide WPX SSB Contest is one of the biggest events of the year and the bands explode into action.

If the improved solar conditions from the 2009 CQWW DX SSB contest are any indication, then this year's WPX event should be spectacular. Now that I have put up a 15 m monoband Yagi, I simply cannot wait for this weekend to arrive.

CQWW WPX SSB is on March 27-28 and goes for 48 hours from 0000 UTC Saturday to 2359 UTC Sunday although single operators may only operate for 36 hours. The objective is to contact as many amateurs and prefixes as possible during the contest period on the 1.8, 3.5, 7, 14, 21 and 28 MHz bands. The exchange is an RS report plus a sequential serial number starting at 001.

The multipliers in this event are prefixes. Each prefix is counted only once regardless of the band or number of times the same prefix is worked. A prefix is the letter/numeral combination which forms the first part of the amateur call. Examples: N8, W8, WD8, HG1, HG19, KC2, OE2, OE25, etc. Any difference in the numbering, lettering, or order of same shall count as a separate prefix.

A station operating from a DXCC country different from that indicated by its call sign is required to sign portable. The portable prefix must be an authorized prefix of the country/call area of operation. In cases of portable operation, the portable designator will then become the prefix. Example: N8BJQ operating from Wake Island would sign N8BJQ/KH9 or N8BJQ/NH9. KH6XXX operating from Ohio must use an authorized prefix for the U.S. 8th district (/W8, /AD8, etc.).

Portable designators without numbers will be assigned a zero (Ø) after the second letter of the portable designator to form the prefix. Example: PA/N8BJQ would become PAØ. All calls without numbers will be assigned a zero (Ø) after the first two letters to form the prefix. Example: XEFTJW would count as XEØ. Maritime mobile, mobile, /A, /E, /J, /P, or interim licence class identifiers do not count as prefixes.

Visit www.cqwpx.com/ to view the full rules.

*continued foot of next page*

# Spring VHF-UHF Field Day 2009: Results

**Contest manager: John Martin VK3KM**

When the date of the Spring Field Day was moved later in the month of November, it was expected that this change might provide better weather (and propagation). This was not to be the case.

Much fun was had and many excellent contacts made, but most entrants – especially in VK5 – reported dreadful weather, with strong winds and rain in areas which only a fortnight before had been suffering a record heat wave!

According to the rules, the winners of Sections A and C are barred from also entering Sections B and D. So, this time the total number of logs was 56. First place in Section A again went to Tim Dixon VK5ZT, with Gavin Brain VK3HY getting top score in Section B. In the multi-operator sections, the winners were VK5LZ, the Elizabeth Radio Club, and VK3BJA, the Gippsland Gate club. The winner of the home station section was Ross Keogh VK3MY.

Congratulations to all, and I hope you will all be back for the Summer Field Day on 16/17 January.

The rules for the January Field Day will be the same as for previous events, but there will be some minor changes for the Winter Field Day in late June. These changes will be publicised by early April.

### Results table on facing page

*See also page 64 for Contest ""picture of the month"*

### Notes to the results table on facing page

(1) South Coast ARC: Barry Bates VK5KBJ

(2) Elizabeth Amateur Radio Club: Iain Crawford VK5ZD, Andrew Hall VK5AKH

(3) Lara UHF – Microwave Exp Group: Charlie Kahwagi VK3NX, Chas Gnaccarini VK3PY, David Learmonth VK3QM

(4) Eastern and Mountain District Radio Club: Mike Subocz VK3AVV, Peter Forbes VK3QI, Max Chadwick, VK3WT, Jack Bramham VK3WWW

(5) Tableland Radio and Electronics Club: John Roberts VK4TL, Dale McCarthy VK4DMC, Stuart Dunk VK4SDD, Trevor Gregory VK4ZFC

(6) Lou Blasco VK3ALB, Nik Presser VK3BA, Jenni Blasco VK3FJEN, Michael Blasco VK3FMIC

(7) Sunshine Coast ARC: Wayne Shaw VK4WS, John McPherson VK4JMC, Richard Philp VK4RY, Bill Booth VK4WB, Cec Tysoe VK4FMUZ, Leicester Hibbert VK4ALH

(8) Moorabbin & District Radio Club: Lee Moyle VK3GK, Ian Morris VK3IFM, Gerard Werner VK3GER

(9) Andy Sayers VK2AES, Dale Hughes VK1DSH

(10) Ted Garnett VK1BL, Greg Parkhurst VK1AI

(11) Hornsby and District ARC: VK2DAY, VK2FMAM, VK2ANG, VK2BCD, VK2HRX, VK2TTP, VK2MTX

(12) Kirk Mercer VK2MER, Stuart Bayliss VK2LSB

(13) Bill Day VK3LY, Jim Bywaters VK3OM, Briasn Farmers VK3AQX

(14) City of Brisbane Radio Society: R. Croucher VK4CRO, J. Morris VK4MJF, D. Bumpstead VK4DJB, K. Myers VK4GC

(15) Blue Mountains ARC: VK2ZIW, VK2AOR, VK2BOS, VK2FTTP, VK2FACW, VK2FTMA, VK2FMJB

(16) Gippsland Gate Radio and Electronics Club: Phil VK3YB, Geoff VK3ZGW, Chris VK3QB, Albert VK3BQO, Megan VK3HOP, Helmut VK3DHI, Max VK3TMK

*Continued from previous page*

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### European PSK Club Worldwide DX

For PSK fans, the EPC Worldwide DX Contest is something to dive into and it gives you an opportunity to use the seldom practised and very fast PSK125 mode rather than the more leisurely and popular PSK31.

This year's events will take place on February 27-28 from 1200-1200 UTC and maximum power is 100 W. Participants are recommended to use the following frequencies:

| | |
|---|---|
| 160 m: | 1.838 – 1.843 MHz |
| 80 m: | 3.580 – 3.590 MHz |
| 40 m | 7.040 – 7.050 MHz |
| 20 m | 14.070 – 14.080 MHz |
| 15 m | 21.070 – 21.080 MHz |
| 10 m | 28.070 – 28.080 MHz. |

In this event, everybody can work everybody for QSO and multiplier credit. The exchange is simply an RST followed by a sequential serial number starting at 001. There are a variety of categories and awards to choose from so participants

ar

## VHF-UHF Field Day News

### 2010 Field Day Cumulative Certificate

Do you intend to participate in all three VHF-UHF Field Days in the coming year? Here is an extra incentive for you. Special certificates will be awarded in December 2010 to the entrants who have participated in all three 2010 Field Days. Awards will be based on the rank order of logs rather than on the raw scores.

### Microwave Challenge – January 2011

The Summer Field Day for 2011 will cover all bands as usual. But it will also include a "Microwave Challenge", with special certificates to be awarded to the highest scorers on microwave bands. So if you have been planning to add microwave gear to your station, now is the time to start preparing!

### Field Day web site

The VHF-UHF Field Day web page is http://www.wia.org.au/members/contests/vhfuhf/

This site includes the rules for the next Field Day, rules and results of all past VHF-UHF Field Days, cover sheets and scoring tables, and other information.

## Spring VHF-UHF Field Day 2009:

# Results table

| Call | Name | Location | 50 MHz | 144 MHz | 432 MHz | 1296 MHz | 2.4 GHz | 3.4 GHz | 5.7 GHz | 10 GHz | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | **Section A: Single Operator, 24 Hours** | | | | | | | | | |
| VK5ZT | Tim Dixon | PF85, PF86, PF93, PF94, PF95, PF96, QF03, QF04 | 183 | 642 | 1035 | 1448 | 1740 | - | 1740 | 1630 | 8418 |
| VK3JTM | Tim Morgan | QF12 | 66 | 324 | 535 | 624 | 520 | - | - | 350 | 2419 |
| VK4CP | Adam Maurer | QF61, QF62, QF63 | 165 | 441 | 585 | 544 | - | - | - | - | 1735 |
| VK3DAG | Steven Hamer | QF32 | 118 | 435 | 540 | 576 | - | - | - | - | 1669 |
| VK5LA | Andy Williss | PF85, PF95, QF05 | - | 486 | 560 | 352 | - | - | - | - | 1398 |
| VK5ARC | SCARC (1) | PF94 | 179 | 399 | 475 | 288 | - | - | - | - | 1341 |
| VK1DA | Andrew Davis | QF44 | 35 | 246 | 235 | 264 | 340 | 210 | - | - | 1330 |
| VK4OE | Doug Friend | QF59 | 48 | 321 | 225 | 168 | - | 210 | - | 210 | 1182 |
| VK2AMS | Mark Swannack | QF68 | 50 | 282 | 175 | 240 | - | - | - | - | 747 |
| VK4NME | Bryan Cunnington | QH22 | 52 | 93 | 155 | - | - | - | - | - | 300 |
| VK4NE | Mick Marinkovic | QG62 | 20 | 78 | 105 | - | - | - | - | - | 203 |
| | | **Section B: Single Operator, 8 Hours** | | | | | | | | | |
| VK3HY | Gavin Brain | QF32 | 95 | 348 | 545 | 424 | - | - | - | - | 1412 |
| VK3YFL | Bryon Dunkley-Smith | QF22 | 68 | 276 | 450 | 560 | - | - | - | - | 1354 |
| VK4ADC | Doug Hunter | QG61 | 137 | 258 | 340 | 392 | - | - | - | - | 1127 |
| VK5LA | Andy Williss | PF85, PF95, QF05 | - | 321 | 450 | 352 | - | - | - | - | 1123 |
| VK5OQ | Keith Gooley | PF95 | 76 | 222 | 290 | 296 | - | - | - | - | 884 |
| VK3DAE | Dean Emmins | QF12 | 73 | 255 | 395 | - | - | - | - | - | 723 |
| VK2JDH | David Hardy | QF57 | - | 210 | 295 | 176 | - | - | - | - | 681 |
| VK4EV | Ron Everingham | QG63 | 58 | 135 | 225 | - | - | - | - | - | 418 |
| VK2YJS | Julian Sortland | QF56 | - | 108 | - | - | - | - | - | - | 108 |
| VK5KPR | P. Banks | PF87 | 56 | - | - | - | - | - | - | - | 56 |
| | | **Section C: Multi Operator, 24 Hours** | | | | | | | | | |
| VK5LZ | Elizabeth ARC (2) | PF85, PF86, PF93, PF94, PF95, PF96, QF03, QF04 | 178 | 582 | 1000 | 1432 | 1740 | 0 | 1740 | 1740 | 8412 |
| VK3UHF | LUMEG (3) | QF21 | 79 | 645 | 830 | 920 | 780 | 210 | 370 | 610 | 4444 |
| VK3ER | EMDRC (4) | QF22 | 228 | 837 | 1080 | 1144 | 580 | - | - | - | 3869 |
| VK4WAT | TREC (5) | QH22 | 536 | 591 | 790 | 776 | - | - | - | 420 | 3113 |
| VK3ALB | (6) | QF11 | - | 459 | 630 | 832 | - | - | 270 | 390 | 2581 |
| VK4WIS | SCARC (7) | QG63 | 214 | 633 | 725 | 456 | - | - | - | - | 2028 |
| VK3APC | MDRC (8) | QF22 | 113 | 390 | 545 | 720 | - | - | - | - | 1768 |
| VK2AES | (9) | QF45 | 38 | 492 | 415 | 240 | 250 | - | - | 240 | 1675 |
| VK1BL | (10) | QF44 | 35 | 234 | 210 | 304 | 340 | 210 | - | 240 | 1573 |
| VK2MA | HADARC (11) | QF56 | 123 | 459 | 450 | 424 | - | - | - | - | 1456 |
| VK2MER | (12) | QF55 | 42 | 579 | 480 | 224 | - | - | - | - | 1325 |
| VK3LY | (13) | QF03 | 79 | 300 | 415 | 456 | - | - | - | - | 1250 |
| VK4WIE | CBRS (14) | QG62 | 78 | 219 | 135 | - | - | - | - | - | 432 |
| VK2HZ | BMARC (15) | QF56 | - | 171 | 250 | - | - | - | - | - | 421 |
| | | **Section D: Multi Operator, 8 Hours** | | | | | | | | | |
| VK3BJA | GGREC (16) | QF21 | 33 | 249 | 260 | 184 | - | - | - | - | 726 |
| | | **Section E: Home Station, 24 Hours** | | | | | | | | | |
| VK3MY | Ross Keogh | QF22 | 43 | 390 | 590 | 696 | 420 | - | - | - | 2139 |
| VK4ZDP | David Purkis | QH32 | 314 | 438 | 595 | 424 | - | - | - | - | 1771 |
| VK3XPD | Alan Devlin | QF22 | - | 195 | 385 | 568 | 350 | - | - | 210 | 1708 |
| VK3VFO | Nick Kraehe | QF31 | 52 | 399 | 370 | 296 | - | - | - | - | 1117 |
| VK5MWH | Mark Hutchinson | PF94 | 48 | 264 | 400 | 264 | - | - | - | - | 976 |
| VK4FNQ | John Goldfinch | QG39 | 151 | 192 | 240 | 280 | - | - | - | - | 863 |
| VK3KIS | Andrew Kayton | QF22 | 68 | 201 | 245 | 336 | - | - | - | - | 850 |
| VK5NE | Paul Roehrs | PF95 | 70 | 345 | 430 | - | - | - | - | - | 845 |
| VK5LSB | Simon Brandenburg | PF94 | 43 | 261 | 375 | - | - | - | - | - | 679 |
| VK5MEF | Matthias Fresacher | PF95 | - | 240 | 360 | - | - | - | - | - | 600 |
| VK5LD | Dale Loffler | PF96 | 72 | 195 | 300 | - | - | - | - | - | 567 |
| VK2EI | Neil Sandford | QF68 | 33 | 171 | 120 | 192 | - | - | - | - | 516 |
| VK3FZ | Roger Stafford | QF22 | 44 | 138 | 205 | - | - | - | - | - | 387 |
| VK3TOM | Tom Steadman | QF31 | 33 | 150 | 165 | - | - | - | - | - | 348 |
| VK5FPAW | Paqui Schulz | PF95 | - | 159 | 165 | - | - | - | - | - | 324 |
| VK1WJ | Waldis Jirgens | QF44 | - | 144 | 115 | - | - | - | - | - | 259 |
| VK3HV | George Francis | QF31 | 33 | 105 | 115 | - | - | - | - | - | 253 |
| VK2ZQX | John Watson | QF58 | - | 135 | 110 | - | - | - | - | - | 245 |
| VK5FMPJ | Patrick Morgan | PF94 | - | 159 | - | - | - | - | - | - | 159 |
| VK4ATH | Tom Hatton | QG62 | 148 | - | - | - | - | - | - | - | 148 |

# Hamads *classifieds* *Free to Members*

## FOR SALE – NSW

The Ic-U400 will work from 430 MHz to about 500 MHz. It can be easily changed if you wish. Output power is about 35 watts. It has 16 channels but it only takes about a minute to reprogram a channel frequency to whatever you like, with a plug in keypad. Offers over $50.

Victor VK2XVS. Mobile 04 3509 6995 or email victorsnewemail@yahoo.com.au

Essential parts to construct a tri-band cubical quad antenna including hub, fibreglass spreaders and sundry pieces, hard drawn copper wire and nylon cord. Instructions on how to assemble and erect on a mast/tower. $200.00. Stan VK2AYL QTHR.

## WANTED - NSW

I am looking for a very good Kenwood TS-830S transceiver. I prefer a one owner and no modifications and original packaging with original manual. All functions must work on the radio. I am willing to pay a reasonable price. Ring me if you have one to offer, I may consider your offer. Graham VK2VVG, Phone 02 6343 1469.

I am looking for a fuse holder to suit a Collins R391 RX. Also looking out for a AR8 RX. If anyone could help I would be very pleased.

Nick L20106, phone 02 9477 2134.

Information required for programming the Icom IC-H16T. Please note that this is the 'T' version and the H16 programming through the keypad does not program the T version.

Victor VK2XVS. Mobile 04 3509 6995 or email victorsnewemail@yahoo.com.au

A manual for a Racal thermionic store 4 reel to reel tape recorder. A manual for a Sony model TC 377 reel to reel tape recorder. A manual for a Sansui model AU555A amplifier.

Contact Nick L20106, phone 02 9477 2134.

## FOR SALE – VIC

1. Radio mast, four sections of two metres each, 240 mm x 240 mm square, galvanised.

2. Two rolls each of about 30 metres, used, 214/U AWM style 1354 E96824-L coax cable.

Only genuine, reasonable offers please. Pick up Heathmont. Tony VK3PTV 03 9729 1513.

Yaesu FL-50 transmitter and FR-50 receiver, for parts only. Free. Local pick-up only. Terry VK1YJ, Phone 03 9315 0186.

Horn antenna, pyramidial, UHF band, 500 MHz to 1100 MHz, low noise, gain 8 dBi to 11 dBi. Type N connector. Size 600 mm x 480 mm x 870 mm deep. $380.

Horn antenna, pyramidial, SHF band, 2.0 GHz to 3.20 GHz, low noise, gain 10 dBi to 13 dBi. Type N connector. Size 245 mm x 200 mm x 310 deep. $280. Both professionally designed and built. Contact Frank Bishop 03 9722 8988 or email: intron1@hotmail.com

## FOR SALE - QLD

RCA AR77E communications receiver (appears to be the forerunner to the AR88). Condition is what you might expect for a 1930/40s RX. There are nine valves intact, and one is missing. I have not worked on this one, and assume it is not working. $100 ONO.

Swan 350 TX. Complete with Swan voice control unit (VOX). Good visual appearance, no PSU. S/N C282211. $220 ONO.

AR7 chassis, for parts, no gang, $10.

Geloso VFO, type 4/104, complete with all valves, 6CL6, 5763. $25.

Geloso VFO, type 4/101, complete with all valves, 6V6GT, 6J5GT, 6AU6, $25.

RCA 7360 NOS valve, very rare, used in Swan and other early TX, $25.

Five gang tuning condenser complete with vernier drive. 20-820 pF. Ceramic insulators. $15.

AR7 coil boxes, band A, B, C, D and E. $10 each.

Prefer pick up from Brisbane for the first three items, others posted at cost. Malcolm VK4ZMM QTHR. Email vk4zmm@bigpond.net.au or phone 07 3298 5454.

## WANTED – QLD

Variable vacuum capacitors, any capacitance value considered, minimum voltage rating 5 kV. Murray VK4XRG, phone 07 3711 3441 or emayess1@bigpond.com

## FOR SALE – SA

Want a fairly simple project for your club or would you just like to build a kit project for yourself? The Repeater Over Timer could be just the thing. See AR November 2009. The Elizabeth ARC has kits available for this device, which uses only one IC and a handful of minor components. It is switched on by the transmitter's RF output and draws no current when not active. Kits are available from the EARC for $35 plus $6 P+P.

See www.earc.org.au or phone Keith VK5OQ on 08 8280 7430.

**TRADE PRACTICES ACT**
It is impossible for us to ensure that the advertisements submitted for publication comply with the Trade Practices Act 1974 Therefore, advertisers and advertising agents will appreciate the absolute need for themselves to ensure that the provisions of the Act are strictly complied with.

**VICTORIAN CONSUMER AFFAIRS ACT**
Advertisements with only a PO Box number as the address cannot be accepted without the addition of the business address of the box-holder or seller of the goods.

Ozi-kits available at the MNCARG Inc Radio Expo 2010.

The Ozi-Wire, 3.5 to 55 MHz, no resistor broad band antenna kit.

The Ozi-Pole multi-band portable dipole, 40 metre to 6 metre kit.

The Ozi-Beam three element two metre yagi kit.

The Ozi-Data isolated digital modes interface kit.

See them at the Mid North Coast Radio Expo, 24 January 2010.

Contact the MNCARG Inc, Box 505, Bellingen. NSW. 2454, http://www.mncarg.org/ or mncarg@yahoo.com.au


**A Part time Technician/Technical Officer**
**Perth Location**

is required to maintain computer controlled 1kW UHF transmitters. The applicant's background should be in practical technical support of RF equipment. This position may suit those who are semi-retired.
Core Duties:
To provide hands on technical expertise to ensure efficient and continuous transmitter function by providing routine and emergency support; on-site maintenance and commissioning new transmitters. Also providing practical support as required.
Possible Experience/Skills required include:
Ex TV or Radio Broadcast staff or similar; TAFE Certificate/ Diploma; BOCP; Defense Service; Advanced Radio Operators Certificate; Practical RF experience; Comparable electronic background
Hours may vary daily.
Salary will be negotiated commensurate with skills and experience
Please email resume to:

**clinicmanager@radiowaveclinic.com.**

radiowave therapy | Clinic



**HF, VHF, UHF ANTENNAS & ACCESSORIES**

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# Picture of the Month

For the inaugural Picture of the Month (PoM) we really couldn't go past this shot of GARC's portable, VK3ALB/P, in action during the 2009 VHF–UHF Spring Field Day. It just covered so many bases.

The shot touches on the contest itself; a club activity and the 'getting out there in great remote outdoors' that accompanies much portable contest activity.

And for those scoffers who say that it doesn't look very remote; spending a cold, wet and windy day camped on the top of a mountain near Camperdown in Victoria's Western District did seem a little remote from civilisation to those who were there.

A PoM will be selected each month looking for relevance as the key criterion. Good composition will help, as will having a large number of pixels.

## VHF–UHF Spring Field Day

Very difficult conditions with heavy rain, strong winds and cold temperatures made for a very challenging weekend and forced many operators to stay home.

But VK3ALB/P braved the elements and ventured to Mt Leura, near Camperdown in QF11NS to participate in the Spring VHF/UHF Field Day.

VK3ALB/P was crewed by Lou VK3ALB, Nik VK3BA, Jenni VK3FJEN and Michael VK3FMIC. Bands in operation were 2 m, 70 cm, 23 cm, 6 cm and 3 cm. VK3ALB made over 150 contacts during the 24 hour event including a very difficult but rewarding 2 m contact to Flinders Island with ex GARC member Gavin VK7VTX.

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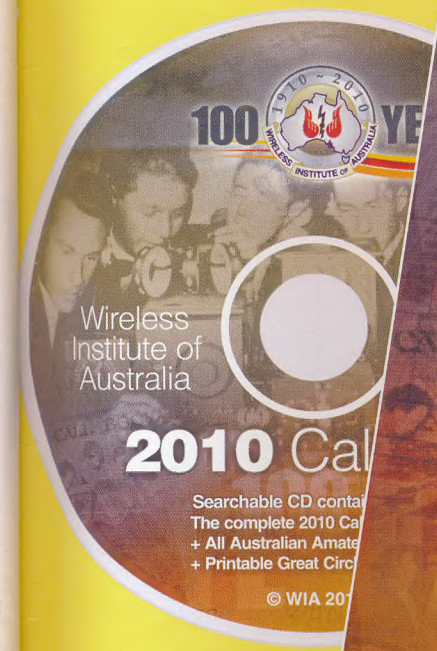


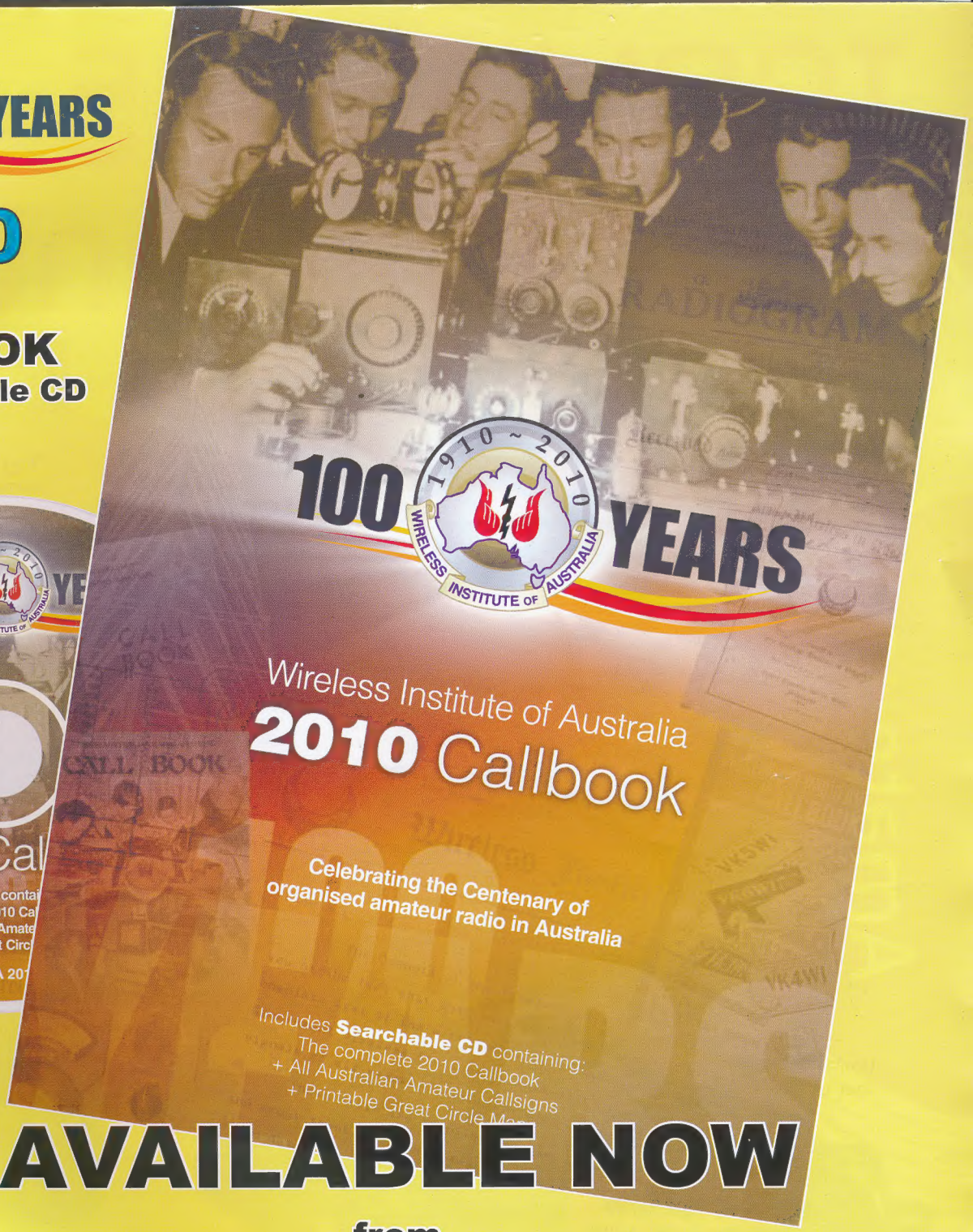


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